

**BUSINESS AND NON-PROFIT  
ORGANIZATIONS FACING INCREASED  
COMPETITION AND GROWING  
CUSTOMERS' DEMANDS**

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## INTRODUCTION

From the perspective of commercial and non-commercial organizations, this monograph with contemporary organizational and management problems, focus on four thematic areas. Traditionally, the first one is concentrating the reader's attention on the internal aspects of the organization's functioning as an object of research. In this regard, articles related to the concept of corporate social responsibility in two ways: organizational research and bibliometric analysis. The authors used an analogical (bibliometric) approach to examine trends in publishing for the concept of learning organizations. In this part of the discussion, the social aspect has been strongly displayed, also thanks to the social capital and enterprise. Another topic in this section is the role of the workers' knowledge in creating innovative solutions, emphasizing the role of trust and culture-rich collaboration between employees, employees' participation in creating projects, and organizational change. In addition, it discusses the role of information and knowledge networks and sharing knowledge among employees, which does remain without influence on the shaping of individual employees' careers. Slightly different from the other articles, though set in this section, there is an article referring to the organizational pathology. These considerations are much more valuable, usually because of the difficult access to negative information.

The next section presents articles in the context of the modern tools used in the management of commercial and non-commercial organizations. This part of the discussion starts an article about forecasting methods and modern models of business management. In opposition to these considerations, the problem of unused, modern management methods in the local government sector, remains valid. Also, it refers to social media as a source of customer knowledge and management control, which should be considered as a strong and innovative determinant influencing the development of contemporary management methods of a modern enterprise.

Interesting considerations are included in the article on the process management, with emphasis on the dynamic management of business processes and IT systems that go with it. The other articles present the concepts of the risk management model in a technology project, business model used in franchising, and the concept of accountability in conjunction with the development of innovation thanks to negotiating the role of intellectual capital.

The modern market economy forces organizations to develop their ability to adapt to the conditions by improving their organization continually. It shows how modern-day commercial and non-commercial organizations are competing in a competitive market. This section opens the article, referring to the social competences of students developed during their studies and the competences of the future, which were studied and compared in two universities. The integral part of the organization's functioning of the organization in the environment is their broadly understood cooperation for the implementation of the objectives and achieving a competitive advantage in the market. This trend covers articles referring to the participation of county in networking, modeling synergistic interrelations within the business association, or the conditions that should be met between enterprises and institutions supporting the technological development of the organization. Other considerations concern customer preferences concerning their choice of commercial banks, the factors that determine the choice of financial instruments by small and medium enterprises, or the demands of sustainable family business development.

The final part of the articles is related to a broader perspective, and so the functioning of the organization from a sectoral perspective and across industries. A distinctive feature is a sectoral approach to knowledge-based business services, the determinants of knowledge-based products in the pharmaceutical industry, and the behavior of competing companies in the chocolate and confectionery industry. A separate topic in this section is the concept of capturing value or the value in a sectoral approach. The issues related to the protection of personal data in the healthcare sector, patent activity of enterprises in the technology park, as well as the management of resources in the cluster.

The prepared monograph is an interdisciplinary compendium of knowledge on the functioning of both commercial and non-commercial organizations in the context of three perspectives: micro, meso, and macro. The advantage of this type of studies is modern and up-to-date look at the problems of management, organization behavior, or the functioning of the organizations in the sector.

**Adam Nalepka, Anna Ujwary-Gil**



**I.**  
**BUSINESS AND NON-PROFIT**  
**ORGANIZATIONS AS THE OBJECTS**  
**OF RESEARCH**



# THE ROLE OF CSR IN CORPORATE SOCIAL CAPITAL CREATION

**Justyna Berniak-Woźny<sup>1</sup> and Daniela C. Wilks<sup>2</sup>**

## **Abstract**

*The paper explores the relationship between social capital, corporate social capital and corporate social responsibility and trust in business. The aim of the paper is to highlight the role of the CSR concept in the corporate social capital creation process. The authors started with the review of the social capital concept – its essence, development, and characteristics. Further, the analysis of the business adaptation of the social capital concept was conducted. Finally, the corporate social responsibility concept was presented and its role from the perspective of trust and wider, corporate social capital creation, was discussed. It is concluded that actual implementation of the CSR concept can raise the trust to the business organization and create its social capital.*

**Keywords:** *social capital, corporate social capital, corporate social responsibility, trust.*

## **1. Introduction**

The concept of social capital has been well researched, and there is compelling evidence that social capital benefits individuals, communities, organizations, and even nations. There are various definitions of social capital, but the common denominators to all definitions are the concepts of trust, networks and shared norms that facilitate co-operation. Social capital corresponds to the principles of market exchange in different areas of activities of individuals and organizations, uniting them in order to improve the quality of life in both the moral and material sense (Vveinhardt, Andriukaitienė & Cunha, 2014).

Discussion about the role of social capital in economic life is not new. As Arrow (1972) argues, every economic transaction has within itself an element of trust, and much of the economic backwardness in the world can be explained by the lack of mutual confidence. Unfortunately, public trust in institutions has been seriously shattered by the financial crisis.

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Furthermore, The Edelman Trust Barometer 2017 reveals that trust is still in crisis around the world. The general population's trust in all four key institutions — business, government, NGOs, and media — has declined broadly since 2012.

Due to the low levels of trust in business, companies have begun considering trust and trustworthiness as vital elements of their stakeholder communication. As research findings suggest, trust is enhanced by responsible and fair behavior of companies (e.g., Perrini & Castaldo, 2008; Pivato, Misani & Tencati, 2008; Hansen, Dunford, Boss, Boss & Angermeier, 2011), business considers CSR as a core business strategy to increase trust and create social capital.

## **2. The social capital concept**

The term “social capital” has been widely used in a variety of systems such as sociology, economics, politics, general management, social responsibility and ethics, intellectual capital, and human resource management, among other subjects. The first definition of social capital was formulated by Hanifan in her seminar paper “The Rural School Community Centre.” In her words, social capital is “(...) goodwill, fellowship, mutual sympathy and social intercourse among a group of individuals and families who make up a social unit” (Hanifan, 1916, p. 130). She also states that “In community building as in business organization and expansion there must be an accumulation of capital before constructive work can be done” (Hanifan, 1916, p. 130). This view is supported by Fountain (2004) who points that “Social capital, like other forms of capital, accumulates when used productively. (...) Linking cooperation to the economic concept ‘capital’ signals the investment or growth potential of a group’s ability to work jointly” (Fountain, 2004, p. 72).

Since 1970 capital concepts have emerged focusing mostly on the individual, especially on individual human capital like personal connections, personal relationships, and the diverse group of acquaintances (Ueda, 2010). The first systematic analysis of social capital was conducted by Bourdieu (1986), who wrote about this concept in conjunction with cultural and symbolic capital and its conversion to economic capital. Bourdieu defined social capital as “the aggregate of actual or potential resources which are linked to possession of durable networks of more or less institutionalized relationships of mutual acquaintance and recognition,” (Bourdieu, 1986, p. 248).

The economic perspective of social capital was developed by Coleman, for whom social capital is an economic resource for action, claiming that social capital is “(...) defined by its function.

It is not a single entity, but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors – whether persons or corporate actors – within the structure” (Coleman, 1988, p. 98). This definition expands the concept of social capital and introduces a vertical component next to the horizontal associations and behavior within and among other entities, such as companies. Vertical associations are characterized by hierarchical relationships and an unequal power distribution among members. Additionally, Coleman (1988) identified three forms of social capital, namely obligations and expectations, social norms, and information channels. Obligations and expectations can be understood as a “credit slip” that people hold, and that can be cashed when necessary. As for social norms, they provide the criteria for rewarding or sanctioning individual actions, and information channels provide appropriate information as an important basis for action.

Social capital was later researched from the macroeconomic and political perspective. In *Making Democracy Work: Civic Traditions in Modern Italy*, Putnam (1993) presents the political, institutional, and economic value of social capital. He conducted a comparative study of regional governments in Italy (cities in northern and southern Italy) to determine the source of differences between the flourishing economy and civic culture of the North and the relative poverty and economic backwardness of the South. Northern Italy’s history of community, guilds, clubs, and choral societies has led to greater civic involvement that turned to social capital and greater economic prosperity. A lack of similar social institutions and social capital have prevented the South from carrying out the cooperative efforts on which regional economic success depends. Hence Putnam defines social capital as “networks, norms, and social trust” that “facilitate coordination and cooperation for mutual benefit” associated with trade, money-lending, and the flourishing of democracy. Continuing his research, Putnam (2000) looked at the American social trends through the prism of social capital, which led to the publication of his famous book *Bowling Alone: The Collapse and Revival of American*, a provocative and stimulating account of the causes and consequences of America’s declining social capital. Using the example of bowling leagues, he showed that many traditional civic, social and fraternal organizations (bowling leagues) had undergone a massive decline in membership while the number of people bowling had increased dramatically.

Putnam made a distinction between two kinds of social capital: bonding capital (or exclusive capital) and bridging capital (or inclusive capital). The former occurs when one is socializing with people from a similar niche, such as the same age, race, religion, or any other social category. The latter tends to reinforce particular identities and homogeneous groups.

Bridging capital links people to a more distant acquaintance who moves in different circles from their own. Bridging capital tends to generalize broader identities and wider reciprocities, rather than reinforcing a narrow grouping. Putnam argues that these two kinds of social capital, bonding and bridging, strengthen each other. Consequently, with the decline of the bonding capital inevitably comes the decline of the bridging capital that, for example, may lead to greater ethnic tensions.

The third kind of social capital was advanced by Woolcock (2001), linking capital, which consists of relationships up and down the social and economic scale. According to this author, linking social capital allows people to leverage resources, ideas, and information from contacts outside their social milieu.

Characterizing social capital, we should also look at this concept from the perspective of the quality of the relationships. Then we can make distinctions between strong ties with someone with whom one might discuss a serious problem or problems, and weak ties, episodic, single-stranded and more fleeting ties. According to some social scientists, our mix of social relationships has become weaker, more episodic and opportunistic. If this is so, it certainly has implications for our ability to mobilize others towards collective goals (Wuthnow, 1998).

Taking a step further, Nahapiet and Ghoshal (1998) have divided social capital into three components:

- structural – this dimension corresponds to the systems and creates conditions, in which the norms and beliefs are formed;
- cognitive - this dimension corresponds to the norms and determines the overall rules of the “game” on which cooperation between participants is based;
- relational - this dimension embodies the motivating element of the formation of beliefs in the system, defined by norms;

Based on various studies, Antoni and Portale (2011) have distinguished three aspects of social capital. The first aspect is related to social systems, which allow the participants to obtain strategic advantages, generate social and economic outcomes. The second aspect is related to the concept of generalized trust, moving beyond the boundaries of kinship, friendship, and acquaintance. Finally, the third aspect is related to relational characteristics of social capital concerning acquired social skills and personal charisma.

Social capital can be characterized by scope, form, and channel (Grootaert & Bastelcar, 2002). *Scope* refers to the actors involved and can be micro (person to person), macro (society level) or meso (vertical, e.g. between a senior company official and a local resident).

*Form* refers to the method by which social capital is created, and can be cognitive (by changing attitudes and perceptions) or structural (via creating a forum for interactions, such as a committee). Structural social capital facilitates information sharing, collective actions and decision-making through established roles, social networks and other social structures supplemented by rules, procedures, and precedents. As such, it is a relatively objective and externally observable construct (Uphoff, 2000). Cognitive social capital refers to shared norms, values, trust, attitudes, and beliefs. It is, therefore, a more subjective and intangible concept (Uphoff, 2000). *Channel* refers to the way in which the acquired social capital translates into positive social outcomes.

For Padlam (2000), social capital can either be glue that provides social cohesion or the lubricant that helps members of society to rub-along together. It consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible (Cohen & Prusak, 2001). This is the reason why the World Bank see in this concept a bedrock for sustainable development and claims that: “The traditional composition of natural capital, physical or produced capital, and human capital needs to be broadened to include social capital. Social capital refers to the internal social and cultural coherence of society, the norms and values that govern interactions among people and the institutions in which they are embedded. Social capital is the glue that holds societies together and without which there can be no economic growth or human wellbeing” (World Bank, 2001).

### **3. Corporate social capital**

According to Ueda (2010), the concept of social capital goes beyond communities and societies, and has high utility from the perspective of contemporary business management, particularly in the creation of the corporate value. This explains the growing interest of business in this concept. Social capital increases the value of human capital, allows the company to achieve a consensus, promotes understanding between business and public sector organizations, reduces transaction costs, facilitates cooperation, balances the economic behavior under the norms and ethical principles (Bueno, Salmador & Rodríguez, 2004).

Social capital makes an organization more than a collection of individuals focused on achieving their own private goals. It bridges the space between people through the creation of high levels of trust, strong personal networks, dynamic communities, shared understandings, and a sense of equal participation in a joint enterprise—everything that draws individuals together into a group.

This kind of connection supports collaboration and commitment, give access to knowledge and talent, and supports consistent organizational behavior (Cohen & Prusak, 2001).

On the other hand, in authors' opinion lack of social capital can lower the efficiency of an organization. Especially lack of trust can have an extremely negative impact as can cause problems with attracting and retaining talents, problems with customer loyalty, weaker negotiating position with business partners, more difficult process of gaining social license to operate.

Leenders and Gabbay define Corporate Social Capital (CSC) as: "The set of resources, tangible or virtual, that accrue to a corporate player through the player's social relationships, facilitating the attainment of goals" (Leenders & Gabbay, 1999, p. 3). These authors define four levels of Corporate Social Capital, namely the individual human being, groups or departments where individuals work together, the organization itself (being the collection of groups or departments), and the inter-organizational network of organizations.

Generally, social capital has three dimensions (NBS, 2104) as follows:

- social networks - the shape and structure of the network of relationships;
- trust and reciprocity - the quality of relationships, the degree of trust imbued in relationships, and their ability to influence people's actions and willingness to take risks;
- shared norms and value - that effective communication and collective action are enhanced by a common stock of norms and values.

Corporate Social Capital arises from all relationships of a company (i.e., the relationships within the company, as well as the relationships of a company with consumers and other partners) and forms the foundations of the company (Cohen & Prusak, 2001).

Organizations derive value from both internal and external social capital. According to Berzina (2011), the internal corporate social capital is stated in company spirit, teamwork, climate for employee mutual collaboration and cooperation, labor-management partnerships, product development, and conflict resolution. Relationships among internal stakeholders give rise to enhanced efficiency and reliability in operations, project, and innovation management. These outcomes result mainly on the basis of two main benefits: improved sharing and dissemination of information and knowledge and commitment and retention of employees.

The external corporate social capital can be divided into different levels of the enterprise environments and groups of relationships in these environments. The three main groups of corporate external environment consist of social capital accumulation on competitor and market level, on broader industry level, and on enterprise macro environment level.



External social capital focuses on employees' and the firm's relationships with external stakeholders, such as neighboring communities, customers, and regulators. Building external social capital contributes to competitive advantage and cost reductions, based on the following benefits:

- access to a company's external information and knowledge;
- reputation among customers, regulators, and neighboring communities;
- talent recruitment;
- broader benefits associated with social development and the business environment (NBS, 2104).

Corporate social capital, as the name suggests, is a form of capital together with financial, physical, human and others (see Table 1). All these forms of capital are related to each other and can be exchanged.

**Table 1.** Forms of capital

Type of capital	Definition
capital (general use)	any form of material wealth used, or available for use, in the production of more wealth; the remaining assets of a business or person after all liabilities have been deducted, i.e., net worth.
financial capital	money and paper assets; does not directly produce goods and services, but can be used to purchase factors of production which can produce goods and services.
physical capital	stock of produced goods that contribute to the production of other goods and services.
other tangible assets	factors of production that nature supplies, for example land.
human capital	stock of enterprise accumulated by a worker – knowledge, competences, experience, and the know how; it is valued for its income earning in the future.
social capital	social networks and the norms and sanctions that govern their character; it is valued for its potential to facilitate individual and community action, especially through the solution of collective problems

**Source:** adapted from Halpern (2005, p. 4).

Like other forms of capital, social capital requires investment in the designing of the structure of commitments and expectations, responsibility and authority, norms (or rules) and sanctions, which allows creating a successful and functioning organization (Coleman, 2005).

#### **4. Corporate social responsibility**

Corporate Social Responsibility (CSR) is currently one of the most dynamic and complex business issues debated by both practitioners and academics. As international and global corporations have much greater resources than individual countries/governments, it is increasingly expected that the responsibility for solving certain social problems is transferred to business. This expectation is, for example, well expressed in the UN report on the activities of the world's 3,000 biggest companies, which estimates that one-third of profits would be lost if firms were forced to pay for use, loss, and damage of the environment (The Guardian, 2010). Consequently, CSR is increasingly focused on solving social problems emanating from and influencing both global and local communities. This replaces the perception that CSR is simply a reputational management issue to build and sustain organizational trust (Bachmann & Inkpen, 2011).

From the 1950's onwards, business scholars and practitioners have provided various definitions of CSR. The CSR concept relates closely to corporate citizenship (Bowen, 1953; Carroll, 1979; Mason, 1960), corporate social responsiveness (Ackerman & Bauer, 1976; Strand, 1983), and corporate social performance (Stanwick & Stanwick, 1998; Wood, 1991). Common to these concepts is the idea that organizations should not only be concerned with making profits but also be engaged in "actions that appear to further some social good, beyond the interests of the firm and things required by the law" (McWilliams, Siegel, & Wright, 2006, p. 1).

CSR is multifaceted and encompasses a number of topics, including, but not limited to, philanthropy, managerial values, corporate governance, political involvement/behavior, regulation, ethics, in addition to monetary matters such as finance/economics. Examples of CSR include support to the local community, participation in charitable events, promotion of non-discrimination activities, expansion of worker benefits, operating efficiently, minimizing pollution, transparency, product safety, and generating profits (Evans, Haden, Clayton & Novicevic, 2013). Business organizations are sometimes pressured to implement CSR initiatives (for example, by unions, governments or consumers), but they also implement CSR initiatives in order to raise profitability, to build a reputation or to win local communities' favor (Fleming & Jones, 2013).

Most academics currently perceive CSR as an obligation of every organization (Robbins & Decenzo, 2001; Perrault & McCarthy, 2002; Staples, 2004). According to Robbins and Decenzo (2001), CSR refers to the obligation of a firm, beyond what is required by law or economics, to pursue long-term goals that are good for society.

Perrault and McCarthy (2002) define CSR as a firm's obligation to improve its positive effects on society and reduce its negative effects. Following the same lines, Staples (2004) considers CSR as a firm's obligation to protect and improve the welfare of society and its organization in the present as well as in the future.

However, there are some academics which are less radical regarding the concept of CSR (e.g., Van Marrewijk, 2003; Chakraborty, Verghese, Singh, Mrityunjay, Aga & Gupta, 2004; Idowu & Pappasolomou, 2007;). For example, Van Marrewijk (2003) defines CSR as a company's activities - voluntary by definition - demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders. Chakaraborty et al (2004) view CSR as a means of achieving commercial success in ways that honor ethical values, respect people, communities and the natural environment, and encompass all those actions of the organ+izations which affect society and its well-being. Along the same lines, Idowu and Pappasolomou (2007) define CSR as a concept which refers to corporate behavior over and above legal requirements and voluntarily adopted to achieve sustainable development.

The concept of CSR is dynamic and has changed over time. Just to give an example, the European Commission (EC) used to define CSR as a concept whereby companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis (EC, 2001). Nowadays, EC (2011) defines CSR as "the responsibility of enterprises for their impact on society," in the interest of:

- **enterprises** - CSR provides important benefits to companies in risk management, cost savings, access to capital, customer relationships, HR management, and their ability to innovate;
- **the EU economy** - CSR makes companies more sustainable and innovative, which contributes to a more sustainable economy;
- **society** - CSR offers a set of values on which we can build a more cohesive society and base the transition to a sustainable economic system (see [http://ec.europa.eu/growth/industry/corporate-social-responsibility\\_pl](http://ec.europa.eu/growth/industry/corporate-social-responsibility_pl)).

The conception of CSR is very demanding and not necessarily practiced by all business organizations that claim to be socially responsible. Fleming and Jones (2013) in their book *The End of Corporate Social Responsibility* debate whether the whole idea of CSR is fundamentally incompatible with a capitalist profit maximizing system. They wonder not so much whether it is the end of CSR, but whether it has ever started. Also, Visser argues that the global financial crisis represents "a multi-level failure of responsibility – from the individual and corporate level to the finance sector and entire capitalist system" (Visser, 2010, p. 2).

In the article “The age of responsibility. CSR 2.0 and the New DNA of Business,” he presents the evolution of business responsibility by dividing it into five overlapping ages – the Ages of Greed, Philanthropy, Marketing, Management and Responsibility. Table 2 briefly outlines each Age.

**Table 2.** The ages and stages of CSR

<b>Economic age</b>	<b>Stage of CSR</b>	<b>Modus operandi</b>	<b>Key enabler</b>	<b>Stakeholder target</b>
Greed	Defensive	Ad hoc interventions	Investments	Shareholders, government & employees
Philanthropy	Charitable	Charitable programs	Projects	Communities
Marketing	Promotional	Public relations	Media	General public
Management	Strategic	Management systems	Codes	Shareholders & NGOs/ CSOs
Responsibility	Systemic	Business models	Products	Regulators & customers

**Source:** Visser (2010, p. 2).

From the business practice observations, it can be assumed that the dominating view is still the Strategic CSR. However, the Systemic one is increasingly more popular among CEOs and strongly supported by the international organizations (especially those engaged in the implementation of sustainable development). As Visser explains, the Strategic CSR means relating CSR activities to the company’s core business (e.g. Coca-Cola and water management), often through adherence to CSR codes and implementation of social and environmental management systems, which typically involve cycles of CSR policy development, goal and target setting, program implementation, auditing and reporting.

Porter and Kramer (2006) claim that, by taking a strategic approach, businesses can determine what activities they have in the value chain, what are the necessary resources for being socially responsible as well as choosing the activities that will strengthen their competitive advantage. They further argue that CSR practice should seek a balance between economic and social benefits, long-term objectives, and short-term gains. Therefore, to achieve these ends, companies need guidelines to balance different stakeholders’ concerns. By including CSR as part of a business overall strategic plan, organizations can ensure that the increase in profits and shareholder’s value do not undermine the need to behave socially and ethically towards other stakeholders.

The Systemic CSR proposed by Visser (2010) is much more advanced and complex than the Strategic CSR.

It focuses on activities that identify and tackle the root causes of our present unsustainability and irresponsibility, typically through innovating business models, revolutionizing their processes, products and services and lobbying for progressive national and international policies. Companies that embrace the Systemic CSR will be those that collaboratively find innovative ways to tackle our global challenges and are rewarded in the marketplace as a result. Furthermore, Visser states that in order to be implemented CSR must become the DNA of the organization. Hence, he proposes the DNA Responsibility Bases, which are Value creation, Good governance, Societal contribution, and Environmental integrity (VEGS). Each DNA Base has a primary goal and each goal has key indicators. Table 3 summarizes the goals and key indicators of the DNA Model.

**Table 3.** DNA Model of CSR 2.0

DNA Code	Strategic Goals	Key Indicators
Value creation	Economic development	Capital investment (financial, manufacturing, social, human & natural capital) Beneficial products (sustainable & responsible goods & services) Inclusive business (wealth distribution, bottom of the pyramid markets)
Good governance	Institutional effectiveness	Leadership (strategic commitment to sustainability & responsibility) Transparency (sustainability & responsibility reporting, government payments) Ethical practices (bribery & corruption prevention, values in business)
Societal contribution	Stakeholder orientation	Philanthropy (charitable donations, provision of public goods & services) Fair labor practices (working conditions, employee rights, health & safety) Supply chain integrity (SME empowerment, labor & environmental standards)
Environmental integrity	Sustainable ecosystems	Ecosystem protection (biodiversity conservation & ecosystem restoration) Renewable resources (tackling climate change, renewable energy & materials) Zero waste production (cradle-to-cradle processes, waste elimination)

**Source:** Visser (2010, p. 14)

In the Value Creation DNA Code, we can see the social capital investment as one of the key indicators. This perspective is supported by Lins, Servays and Tomayo (2015), whose research results indicate that social capital, in addition to financial capital, can be an important determinant of firm performance, and

highlights the circumstances under which CSR can be beneficial for the value of the firm. Their findings prove that corporate social capital, built up through investments in CSR, pays off. The authors examined the mechanisms through which higher CSR levels might generate excess returns during the 2008-2009 financial crisis period and found that high-CSR firms benefit through higher profitability, sales growth, employee productivity, and a reduction in accounts receivable, relative to low-CSR firms.

Consistent with this view, in the 2016 PwC Global CEO survey, 64% of CEOs say that “corporate social responsibility (CSR) is core to their business rather than being a stand-alone program.” The respondents (CEOs) explained that this is because they care about building trust with consumers, partners, governments, and their employees. According to the PWC Report:

*There is a body of research supporting the idea that, when there is a high level of trust in a company, it drives business performance by attracting new customers and retaining existing ones. A high level of trust also makes employees more committed to staying with the company, partners are more willing to collaborate and investors more prepared to entrust stewardship of their funding. Consequently, those organizations that can build trust seem to garner significant benefits (PWC, 2016, p. 14).*

To conclude, **trust** in business is recognized by most of global CEOs as something that impacts on their essential point. This is increasingly becoming more important as the levels of trust in businesses are declining. As previously stated, The Edelman Trust Barometer (2017) reveals that trust is in crisis around the world. Trust in all four key institutions — business, government, NGOs, and media — has declined broadly, but trust in business remains higher compared to trust in government or media.

Perhaps what is more concerning about the low levels of trust, is the connection between the fears of the public and the role of business in worsening them. Sixty percent of the general population surveyed worry about losing their jobs due to the impact of globalization and foreign competition. More than half say the pace of change in business and industry is moving too fast. The research findings also reveal high expectations - three out of four respondents agree that a company can take actions that both increase profits and improve the economic and social conditions in the community where it operates (The Edelman Trust Barometer, 2017). If business fails to meet these expectations, it will be a victim of the rising tide.

Employees who do not trust their organizations are less loyal, less motivated, and less productive. Similarly, customers who perceive a breach of trust are more likely to switch to a competitor. When trust is lacking in supplier relationships, more resources are needed to enforce and monitor contracts, which results in increased transaction costs. Organizations that lose the trust

of their investors are more likely to perish. Given the foregoing, managing the trust of stakeholders is a vital task for organizations. Considering that there are many different stakeholder groups, with particular needs and perspectives, this might be a challenging task (Pirson & Malhotra, 2008).

Research findings (PWC, 2014), highlight five areas of benefits that may guide business to increase the levels of trust, namely:

- 1) Better business terms, processes and conditions.
- 2) Enhanced innovation and entrepreneurship, which contributes to competitiveness.
- 3) More loyal, productive and engaged employee relationships.
- 4) Stronger external relationships up and down the value chain.
- 5) Greater resilience to withstand shocks and crises more effectively.
- 6) Trust, as a form of social capital, strengthens the relationship between the stakeholders within the company and between the company and its surrounding environment. To conclude, it is worth pointing out that organizations create social capital better than the market does (Bowey & Easton, 2007).

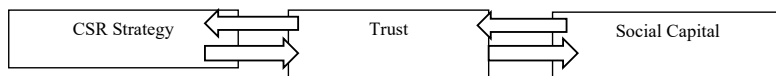
## **5. Conclusions**

Contemporary business operates in a very dynamic and challenging environment. The situation is made even more complicated by the problem of trust in business as an institution (The Edelman Trust Barometer, 2017). It is impossible to manage an organization effectively and efficiently without internal and external stakeholders' trust. The lack of trust means unengaged and disloyal employees, disloyal and cynic customers, more difficult negotiations with investors and business partners, negative approach of public administration, difficulties with gaining a license to operate from the local communities and demanding media relations. All these potential problems are understood by business practitioners and researchers. That is why trust is becoming an issue discussed by the C-level executives and intensively researched by academics.

As was presented in the paper, one of the key concepts, and at the same time strategy, that allows companies to approach the trust issue holistically is CSR. However, it must be highlighted that having CSR initiatives implemented is not enough.

To be perceived as a genuinely socially responsible organization at least the Strategic CSR approach (the one that starts from the core of the business) must be adapted. In more mature organizations the Systemic CSR approach that assumes designing new business models with CSR in its DNA should be considered. In case of such corporate social responsibility practices, trust and further corporate social capital will be developed or created as presented in

Figure 1. What is more, following the Herreros' (2004) approach claiming that social capital can be a source of more social capital and the Woolcock's (2001) perception of trust as an outcome of social capital that comes with time, we can assume that the social capital will create more trust. This trust will develop a more optimal ecosystem for the CSR strategy creation and implementation in a systemic manner.



**Figure 1.** The role of CSR strategy in trust and social capital creation

Referring to the NBS (2014) corporate social capital three dimensions (social networks, trust and reciprocity, shared norms and value), it should be highlighted that trust is the foundation of social capital. The internal and external relationship based on trust is the starting point of organizations' network development or shared norms and values agreement and effective communication.

In authors' opinion, the strategic or systemic CSR approach proposed by Visser (2010) is a serious investment, but the return investment can be high. In the knowledge economy, the human and social capitals are the most difficult to obtain but also the most valuable ones. It is the core of value creation and the "must have" factor for business with a long-term orientation.

To sum up, the purpose of this study was to explore the relationship between social capital, corporate social capital and corporate social responsibility and trust in business. The authors looked at the CSR concept from the perspective of trust and social capital creation, which nowadays are perceived as the key success and competitive advantage factors. The main conclusion is that the large majority of studies show the relevance of these concepts. This line of research is obviously important given the current low levels of trust. More investigation is needed to elucidate the ways in which trust can be fostered.

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# ACTIVITIES OF TRADE UNIONS IN COMPANIES OWNED BY THE STATE TREASURY AS A SOURCE OF ORGANIZATIONAL PATHOLOGIES

**Jerzy Choroszczak<sup>1</sup>**

## **Abstract**

*The following paper presents areas of trade unions activities in companies owned by the State Treasury, which may be a source of organizational pathologies. The author analyses the structure, privileges, and rights of trade unions in Poland. The functioning of trade unions in companies owned by the State Treasury is subject to deeper analysis. Indications have been identified in this area that the number of trade unions in companies owned by the State Treasury is significantly higher than in private companies, especially service ones. An important part of this paper is the analysis of specific trade unions activities leading to the development of organizational pathologies in companies owned by the State Treasury.*

**Keywords:** *trade unions, organizational pathologies, companies owned by the State Treasury.*

## **1. Introduction**

Activities of trade unions have been evoking intense emotions for many years, while their impact on enterprises, employees and the national economy is multidimensional. Although in general, the number of workers in trade unions in Poland is decreasing in the long run, there are still areas of the national economy where trade unions have a strong position and substantially affect the functioning of enterprises.

The main aim of this paper is the identification of potential sources of organizational pathologies in Treasury companies caused by trade unions. In addition, the purpose of this paper is to examine indications why trade unions have found a fertile ground for the development particularly in companies owned by the State Treasury.

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To achieve objectives set out in this paper, the author relied on the research of mainly secondary press materials relating to actions taken by trade unions in companies owned by the State Treasury.

As well as analyses and reports of the Supreme Audit Office, personal thoughts drawn from working in companies wholly owned by the State Treasury, and contacts with trade unions. In addition, the article uses scientific literature related to trade union activity and various trade union reports.

## **2. Trade unions in Poland**

The operation of trade unions in Poland is defined by Act on Trade Unions dated May 23, 1991 (with subsequent amendments). Provisions of this Act state that trade unions are organizations of workers associated on a voluntary and autonomy basis. These unions are independent in their statutory activities from employers, state administration, local government, and from other organizations (Kotowski & Kurzępa, 2012, p. 25). In the literature of the subject matter, it is also referred to as a social organization that has a corporate character (Regulska-Cieślak, 2014, p. 3). They represent employees and other people who are their members as well as defend their dignity, rights, material, and moral interests, both collective and individual. Duties of trade unions in the work establishment primarily include representing interests of their members in relation to the employer and bodies of the company's management. Trade unions within the company also deal with employees' individual issues. They also exercise control over the observance of labor regulations in the work establishment and manage activities of social labor inspectorate (Jagusiak, 2011, p. 24).

At the national level, trade unions also have the right to express opinions on legal acts, participate in collective labor disputes, and sign collective agreements. By exercising control over the observance of labor regulations, trade unions can also request the competent state administration body and local government or the employer to remove irregularities.

Trade union organizations have a lot of power to achieve their objectives. They can appear before the employer in issues concerning:

- carrying out collective negotiations, concluding collective agreements and other agreements provided for in labor regulations (i.e., collective redundancies) – it is particularly about taking a stand on relation to the employer and bodies of the company's management in matters of collective interests and workers' rights;
- consulting regulations of working conditions and salaries in branches not covered by collective agreements – in particular, to take a stand

on employees' individual issues within the scope regulated by labor provisions;

- control over the observance of labor law and participation in the supervision over the observance of regulations and the principles of workplace health and safety.

Among powers that trade unions have, one should also mention the possibility of conducting business activities and in this respect, unions are subject to the economic law. It is worth recalling that the income earned by unions in connection with run-business activities is used to achieve statutory objectives of the union and cannot be intended to be distributed among its members. Trade unions carrying out business activities benefit in this regard from tax exemptions on the same terms as associations.

In addition to rights of trade unions, their members also enjoy additional rights. An employee who was appointed by choice to perform a function within the trade union outside the work establishment, and this choice involves the obligation to work as an employee, is entitled to unpaid leave for the duration of performing this function at the request of the trade union organization. Also, employees who in addition to performing a function within the union work for a given employer, may be exempted from paid work for the time necessary to perform temporary work resulting from the trade union function outside the work establishment. For the time of carrying this activity, the employee has the right to be exempted from work while retaining his remuneration, but only on the condition that such activity cannot be performed in his free time. It is an activity resulting from the trade union function and is temporary and urgent matter. In this case, exemption from work is dependent on the will of the employer, and therefore, the employee performing a function in the trade union cannot unconditionally demand such exemption.

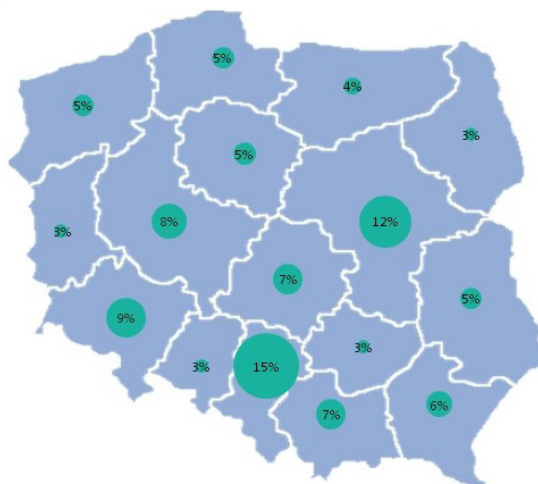
In addition to rights provided to trade unions by Act on Trade Unions and specific acts, also individual units of the union, that is, corporate trade union organizations can take advantage of the appropriate rights to achieve objectives of the union. Therefore, the scope of activities of corporate trade union organization includes:

- taking a stand on employees' individual issues within the scope regulated by labor provisions;
- taking a stand on relation to the employer and bodies of the company's management in matters of collective interests and workers' rights;
- control over the observance of labor law regulations in the work establishment, particularly the principles of workplace health and safety;
- managing activities of social labor inspectorate and cooperating with the National Labor Inspectorate, and
- dealing with the living conditions of pensioners.

Trade unions through strikes and protests can influence on the reduction of effective labor supply to raise wages. The impact of trade unions on wages can be twofold. Firstly, the trade unions can directly negotiate their amounts in the form of collective agreements with the employer. These rates remain at a level often higher than the one that would have formed in the free market. Secondly, as is often reflected in the literature, trade unions can influence wages by knowingly influencing the volume of labor supply, more specifically, through reduction. For example, active support of immigration barriers and laws setting maximum working hours and measures restricting the employment of non-unionized persons or hindering access to the union (Milewski, 2001, p. 292). The trade union, negotiating with the employer new wage conditions, very often of a long-term nature, leads to disruption of the natural labor market mechanisms leading to a state of equilibrium. Higher wages reduce the demand for labor, which in turn leads to surpluses on the labor market. As a consequence, the labor market remains in an imbalance, and the number of employees is lower than that of a typical competitive market (Poterski, 2003, p.165).

According to the Central Statistical Office, trade unions in Poland have 1.6 million members. Many organizational units of trade unions in 2015 amounted to 19,500 (Sedlak & Sedlak, 2015).

Most trade unions operate in the Silesian Voivodeship which is largely related to the functioning of mines in this area that are traditionally bastions of trade unions (Figure 1)



**Figure 1.** Structure of number of trade unions by voivodeships (%)

Source: Sedlak & Sedlak based on Central Statistical Office



Throughout the EU, every fourth employee belongs to the trade union. In Poland, as confirmed by the recent research made by Public Opinion Research Center, only about 16% of employees belong to trade unions. It is only 6% of adults in Poland. Contrary to popular opinion, Poland is not a union power, especially when compared to Scandinavian countries where, e.g., in Denmark, Sweden, and Finland between 70-80% of the employed are associated with trade unions.

In Poland, trade unions are present in 30% of companies (Hanczarek & Inglot, 2015, p. 46). The specificity of their functioning is consistent with a general trend. The larger the company, the most probable presence of the trade union – in 65% of the largest companies, in half of medium-sized companies and every fourth small company. The greatest concentration of trade unions is in the public sector where nearly 70% of the entities admit to the functioning of this type of the organization.

**Table 1.** Overview of trade unions in Poland

Trade union confederation	Number of member organisations	Number of members
NSZZ Solidarność (Niezależny Samorządny Związek Zawodowy »Solidarność«), founded in 1980, unified trade union	8,292 company trade unions, 37 regional federations, 16 branch unions	649,000
OPZZ (Ogólnopolskie Porozumienie Związków Zawodowych), founded in 1984, confederation of company branch trade unions	79 branch federations from eight branches (exact number of individual company trade unions unknown)	550,000
Forum FZZ (Forum Związków Zawodowych), founded in 2002, federation of company branch trade unions	75 branch trade unions from eight branches (exact number of individual company trade unions unknown)	420,000

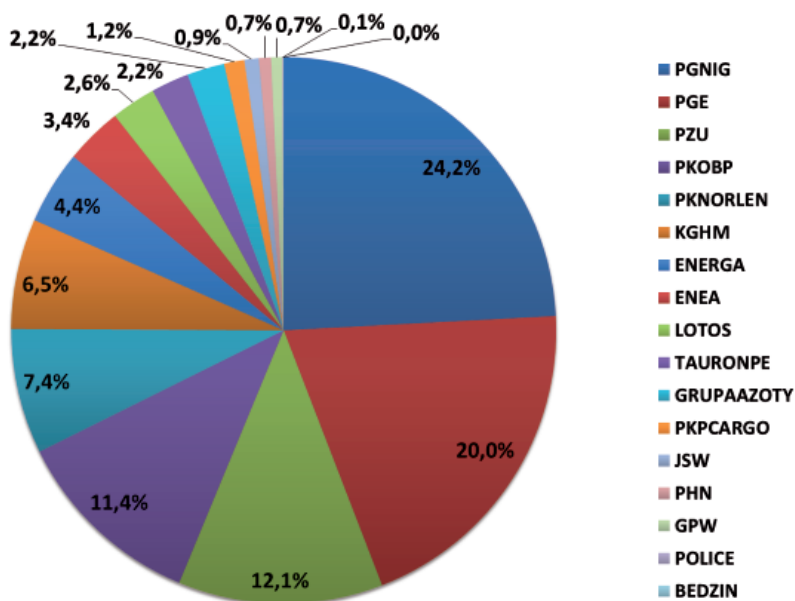
Source: Trappmann (2012, p. 3).

### 3. Trade unions in companies owned by the State Treasury

Companies owned by the State Treasury are a special type of the company used by the State to carry out business activities. The owner of such companies is the State. From the legal point of view, the company owned by the State Treasury is a type of the company created as a result of commercialization process carried out by Minister of the State Treasury at the request of the founding body, director of the state enterprise, and works council or one's

initiative. Commercialization consists in transforming a state-owned company into a limited liability company or joint-stock company (corporation). Unless the law provides otherwise, the company enters into all legal relationships whose entity was a state-owned company, regardless of the legal nature of these relationships (Act on Commercialisation and Privatisation dated 30 August 1996, Journal of Laws of 2013.216, as amended).

One can distinguish among such companies those in which the State Treasury has the majority of shares, the so-called controlling interest as well as those in which it has less than half. According to data from January 2017, the State Treasury was a shareholder of nearly 432 companies, of which 48 were under its control. This group includes various types of companies, including joint-stock companies listed on the stock exchange (Figure 2).



**Figure 2.** Structure of companies on the stock exchange belonging to the portfolio of the State Treasury

Source: <http://www.sii.org.pl/9409/edukacja-i-analiza/akcjonariusz/gieldowe-spolki-skarbu-panstwa-w-pigulce.html>.

Many trade unions in companies owned by the State Treasury is significantly higher than in private enterprises. Only in companies wholly owned by the State Treasury, there were 370 trade unions operating in 2015. One company

had an average of 3 trade unions. As calculated by Ministry of the State Treasury, the annual maintenance of trade unions in companies where the State Treasury has shares, costs over 50 million PLN. Activists of the largest trade unions in Poland earn between 6,000 – 14,000 PLN gross per month.

The most important data on trade unions in selected largest companies owned by the State Treasury is presented in the table below.

**Table 2.** Trade unions in selected companies owned by the State Treasury in 2015

Company owned by the State Treasury	Annual cost of trade unions (in million PLN)	Number of organizations/ unionization (in %)	Number of FTE's within trade unions
PKP	32	423/74	186
PGE	18	114/57,5	57,5
Tauron	15	75/72	Bd.
KGHM	10,0	45/80	43
PGNiG	8,7	41/52,5	11,0
Enea	3,0	8/65	24,5
Energa	3,0	30,55	b.d.
Orlen	2,0	10/54	10,0
Lotos	2,0	7/42,5	6,0
PSE (centrala)	1,0	5/18	Bd.
LOT	1,0	8/57	1,0
PKO BP	0,7	3/19	6,75

**Source:** Zawód związkowiec, Puls Biznesu, 9.04.2015.

Several reasons can be pointed out when considering the relatively high strength of trade unions in companies owned by the State Treasury compared to private companies (these causes were identified both on the basis of the analysis of the scientific literature as well as the author's experiences):

- Processes of commercialization and privatization of state-owned companies. The change of social and economic system started in Poland in 1989, and resulted in a new task assigned to the state authorities, i.e., carrying out the process of commercialization and privatization of state-owned companies. Forms of the employee participation were closely related to these processes. The first step taken by the State to regulate participation was the introduction of employees' representatives to the supervisory boards of privatized companies (Ignys, 2014, p. 65). Employees selected to the supervisory board are in practice often representatives of the trade union, which has strengthened their role in supervising the management of companies owned by the State Treasury. It should be considered that irrespective of their trade union roots, people in the supervisory board have the same responsibilities with the company as the other members of the supervisory board. That means that

they should pay attention to promoting its interests. The supervisory board supervises activities of the company, actions taken by the management board and evaluates them. Unfortunately, in practice, unionists who are members of the supervisory boards tend to be more of the union interests than the interests of the company.

Companies owned by the State Treasury are large entities, often on the market for decades with extensive, highly formalized and bureaucratic organizational structure. These entities often employ vast number of employees, and it sometimes happens that they work in the company owned by the State Treasury for their whole life. It is easier for such entities to create and develop trade unions than, for example in the service sector where the unionization level is lower than in large industrial enterprises. Flexible forms of work and working via Internet gain popularity in such service enterprises. In this case, it is more difficult to have direct contacts and employees frequently change their job. Therefore, it is hard to establish the trade union, while its suitability is questionable.

When the number of members of the union is less than 150, there is a partial exemption from work for one activist. When the union associates between 150-500 members employed in the work establishment, one activist is completely exempted from the obligation to work, while retaining existing earnings, bonuses, and privileges. The number of union FTE's (full-time equivalent) increases as the number of union members grows – for each additional 1000 members of the union there is one extra FTE.

- Trade unions have largely contributed to the overthrow of centrally planned economy. People recognize their leading role in the overthrow of communism, and because of that, the State authorities often tolerate their actions, even if they are detrimental to the financial situation of the company owned by the State Treasury.
- The authorities of companies owned by the State Treasury, frequently politically assigned, tolerate actions of trade unions, even those harmful to have peace of mind. Linking the world of business and politics that is found in the company owned by the State Treasury creates a very favorable ground for the development of usually politicized trade unions.
- The economic situation of companies owned by the State Treasury is very often difficult and uncertain which creates a fertile ground for the development of trade unions. Restructuring carried out in companies owned by the State Treasury usually involves a reduction in employment, cuts in the social sphere, wage cuts or loss of privileges. All this raises fear and frustration among employees of the company owned by the State Treasury, which is effectively used by trade unions.

#### **4. The essence of organizational pathology and symptoms of the pathology in companies**

The term pathology derives from the Greek language where *pathos* means suffering and refers to the science of disease conditions and in broader sense drawbacks of the phenomenon or activity.

Organizational pathology is understood as a state of prolonged and significant dysfunction as well as an abnormality in operation of the organization that has a strong destructive influence on the functioning of the organization and prevents the organization from implementing its objectives. Professor Kieżun defines an organizational pathology as “relatively permanent incapacity of the organization, which results in the wastage exceeding the limits of social tolerance” (Kieżun, 2012, p. 16). In this respect, the pathology is the opposite of efficiency of performance understood as minimizing the wastage. The definition quoted above emphasizes cause and effect of the relationship in the pathology, namely mismanagement caused by the constant and continuing for over a long period incapacity of the organization performance.

This understanding of the pathological concept also includes the phenomenon of social behavior of individuals and specific groups contrary to the values and norms of the culture (Kozak, 2009, p. 23).

Indication of organizational pathology is its long-lasting dysfunction, disorganized work, and harmfulness having a destructive impact on internal structure of the organization (Laszczak, 1999, p. 14). Wastage, which is the effect of organizational pathology is the result of not a single action or mistake, but the effect of numerous repetitive actions – wrong and harmful for the organization, intentional or not. What is very characteristic in the case of the pathology is the fact that the organization often does not realize that is “digested by a disease.” Just like in the disease that often has no external symptoms, in the case of the organization affected by pathological phenomena, there are often no direct symptoms of malfunctioning. It is only after some time that the crisis occurs which is often already advanced and consequently difficult to be brought under control (Dyoniziak & Slabon, 1997 p. 15).

The pathology understood in such a way that the main symptom is considerable wastage of resources is in contradiction with the guiding principle of the organization operation, which is to maximize profits and minimize costs. The pathology persisting for a long time – like untreated disease will inevitably lead to weakening and destruction of the organization from the inside and ultimately to its bankruptcy.

The crisis triggered by the presence of pathological phenomena in the organization features a different character, which is dissimilar to sudden,

often explosive, and unexpected crisis defined by Mitroff, a classic of crisis management theory.

In the case of organizational pathology, the crisis is something to which the company already got used to, accepted, and does not try to fight with it. In this case, it is about maximizing its interests, profits of employees or groups of employees of a given economic entity, even at the cost of actions leading to degradation of the economic or social system. Therefore, it involves highly harmful destructive organizational and economic processes aimed at achieving goals not approved by the external social system (Dyoniziak & Slabon, 1997, p.15). This may lead to the snowball effect if these processes are not eliminated in time or fixed by means of changes in the organization – destructive processes may gradually increase, accumulate, and even result in the self-destruction of the organization, or lead other well-functioning systems to the crisis.

A similar concept and in the opinion of some authors even equal to the concept of organizational pathology is the concept of dysfunction understood as the disruption of the efficient operation of the organization, which in a longer term may lead to the development of pathological phenomena in the organization. Stocki indicates the identity in the concepts of the pathology and dysfunction, showing that the pathology is any dysfunction in the organization. This makes it impossible to achieve realistic goals designated for the organization and consistent with the social welfare in the planned time and with specified resources (Stocki, 2005, p. 49).

Symptoms of such a characteristic pathology are:

- Negative empowerment. Kieżun stated (Kieżun, 1997, p. 18) that negative empowerment consists of changing the main objective in the organization for the side objective. Moreover, such a change of objectives shows that the middle objective becomes the main objective if it all leads to wastage of resources in the social scale, and exceeds the limits of acceptable tolerance.
- Resistance to change syndrome. The implementation of deeper changes very often encounters a strong resistance in companies wholly owned by the State Treasury. Organizational change, especially on a large scale is treated as a “necessary evil” violating so desirable status quo in companies wholly owned by the State Treasury. Such a change also raises a strong resistance of employees, if it is going to involve infringement of interests or influence groups or individuals.
- Identification with object of possession or management resulting in the lack of delegation of authorities. Senior executives in companies wholly owned by the State Treasury very often cannot delegate or delegate to a small extent their authorities to employees. They deal with the current

operational issues and do not have time for planning development strategy, namely analysis of the key development factors. An example of such situation can be personal planning and organizing the promotional trip by the director, including preparation of materials for this trip. The result of this situation is overwork of the executives and engagement in solving minor problems, while problems of greater importance for the enterprise remain unsolved or postponed for later. In this case managers often have a problem with assigning tasks for those with the key importance and those which are less important, and for this reason, they choose random tasks for the implementation. This situation may be the result of small conceptual competencies of senior executives who, by dealing with operational tasks and personal involvement in solving easy problems, try to hide their shortcomings in management skills.

- Organizational attention deficit syndrome is characterized by the lack of proper selection, ordering and determining relevant information from the environment, and no perception of the functioning units in the context of strategic vision by executives. The effect of such pathology is the failure in the internal management system concerning the increase in the number of decision-making problems. As well as, taking numerous uncoordinated actions, wastage (and even theft) of resources, instability and impulsivity of actions with no consequence to their completion, using the chaos to make own interests, and formation of a “manor” having access to the decision maker.
- Responsibility decline syndrome. Employees faced with imprecisely defined tasks shift responsibility for these tasks to each other. Responsibility decline syndrome can apply to the employee who, e.g., when going on vacation does not transfer crucial and important cases or issues to his co-employee or does not inform his superior about these issues. This syndrome can also apply to the superior who cultivating *laissez-faire* approach applies to his employees the principle “do whatever you want.”
- Responsibility decline syndrome may also result from neglecting duties and tasks by employees.
- Theft of company’s property.
- Hack Taking often irrational, or even absurd decisions, no effect of learning from mistakes, and work combined with insane incapacitation of employees.
- The lack of will to cooperation between departments of the organization and the occurrence of strong antagonisms and interdepartmental as well as interpersonal conflicts.

## **5. Symptoms of destructive activities of trade unions, which are a source of pathologies in companies owned by the State Treasury**

Trade unions in companies owned by the State Treasury have undoubtedly positive aspects connected with defending workers' rights. Unfortunately, in Poland, activities of trade unions are frequently a source of pathological behaviors. These behaviors result in the occurrence of long-lasting dysfunctions or irregularities in the organization's activities which destroys the functioning of the organization and hinders the organization to achieve its objectives, especially the most important one, that is, to maximise profits of the company (Kieżun, 2012, p. 16).

When analyzing actions of trade unions in Poland (based on the analysis of scientific literature, articles as well as the author's experiences), the following destructive behaviors leading to organizational pathologies in companies can be distinguished:

- Resistance to change syndrome. The implementation of deeper organizational changes in companies owned by the State Treasury often encounters extreme resistance which is usually initiated by trade unions. Organizational change, especially with regard to a large extent, is recognized by trade unions and presented to employees of the company as a necessary evil that violates the status quo which is such desired in companies owned by the State Treasury; especially, if this change affects the interests or influences people operating in the trade union. Unfortunately, the organizational culture in companies owned by the State Treasury is not a culture orientated towards permanent changes. It is a more conservative culture, based on adopting a defensive attitude towards transformations in the company with the state capital. Adopting the defensive attitude by employees results in the organizational changes, but without conviction and greater involvement, and often without understanding the essence and need for changes. Such an attitude is usually used by trade unions, which present these changes in a bad light, manipulate employees' concerns, often resorting to lies, insinuations, and slanders. Commonly, changes occurring in companies owned by the State Treasury are very painful for employees because of the need for repair restructuring, which results in redundancies or cuts of employee benefits in the social sphere. Such changes, even though they are essential to the survival of the company, are not accepted by trade unions which are afraid of losing their influences and strongly resist, resulting in either completing half of such changes or the withdrawal of the company's management from introducing such changes. Eventually, the company and its employees are threatened with the specter of bankruptcy due to unrealized reforms and changes. Unfortunately, unionists usually fail to see that they lead to the



collapse of the organizational system. An example of such behaviour where trade unions are strongly opposed to restructuring changes can be the mining sector and restructuring of the Coal Mining Company where the implementation of the necessary restructuring changes has always faced with a wave of strikes and protests. As a result of these strikes, Mirosław Taras who was in charge of the Coal Mining Company for barely seven months has been fired for “the lack of restructuring results.” This explanation was surprising as Chairman Taras has long been convincing the need for severe restructuring and closure of mines, but the political climate and activities of trade unions did not allow him to introduce such far-reaching changes.

- Another example of the company where trade unions did not allow for the implementation of the necessary changes is the Polish Post where the collective agreement of trade unions was terminated, and a new one, more flexible was offered where the remuneration policy was to be more dependent on the employee performance. Although the management board promised that the union members would keep their privileges, those with the lowest earnings will get a pay rise, and all employees will retain their employment contracts. Such change has approached the opposition of “Solidarity” trade union, which stated that the pay rise should be even greater for distinguished employees with longer work experience. Whereas the plan of the management board of the Polish Post was to depart from the rule that the longer you work, the more you get, is inefficient and has nothing to do with the quality of work.
- As a result of strong resistance to organizational changes, the company owned by the State Treasury loses the flexibility of acting and responding to opportunities and threats coming from the environment, and as a result, it becomes less competitive compared to the private companies.
- Influencing the management of the company owned by the State Treasury. Unfortunately, trade unions are increasingly trying to interfere and influence the management process of the company owned by the State Treasury, and even replacing the company’s management in its competences and responsibilities. Trade unions strive (often successful) to influence the promotion and dismissal of employees as well as who should get a pay rise and who should not. Trade unions are also trying to influence the management board on the issue of canceling reprimands from lower-level managers. This approach was the case in Jastrzębie Coal Mining Company where unionists tried to manage the mine and had an impact on all essential issues related to the functioning of the company (Wąsowski, 2015).
- As a result of such activities, a formal promotion path was disturbed where merit, professionalism, experience, and achievements were

not taken into account, but companionship and contacts. The quality of work and the authority of management supervision suffered, while the implementation of organizational objectives was considerably impeded.

- Places in the supervisory boards entitled to employees' representatives are often appropriated by the leaders of the largest trade unions in the company which may generate and usually generate conflicts of interests. A member of the supervisory board has access to all information about the company, its trade secrets, secret plans, and sensitive financial data. This information should not be used for any individual purposes, for personal use and in the interests of members of the trade union. It often happens that confidential information is disseminated by unionists at labor rallies in order to put pressure on company bodies, usually on salary matters. It sometimes happens that the unionist gets information as a member of the supervisory board and uses it against the employer (Nartowski, 2016). Naturally, such a situation acceptable by law is another source of organizational pathology and makes the small effectiveness of ownership supervision in companies owned by the State Treasury. Linking corporate function with trade union function may cause a real conflict of interests between good corporate governance and interests of the trade union. An example can be a class action lawsuit. If actions of the management board are subject to the assessment of the supervisory board, and this in part consists of representatives of the trade union that initiated a dispute, it is a challenge to balance the evaluation of the management board actions between the support of the union and the company's distinct position and best interest.
- Trade union members also use the company in which they are employed to do their private interests that are in conflict with economic objectives of the company owned by the State Treasury or are parasites to the company. For example, in the former "Ursus" company unionists established a company which worked on the parent company's assets, producing easily marketable spare parts for tractors. At the same time, complete tractors were not sold. In Jastrzębie Coal Mining Company, wives of several trade union activists ran shops at the premises of the mine (Gadomski, 2015).
- Excessive employment in companies owned by the State Treasury is the result of the trade union policies that do not agree to redundancies which are necessary from the economic point of view. Unfortunately, it happens frequently in companies owned by the State Treasury that unnecessary FTE is kept just because the employee belongs to the trade union. Particularly important for union activists is also the provision which exempts the obligation to work for activists in larger trade union

organizations. When the number of members in the organization is less than 150, there is a partial exemption from work for one activist. When the union associates between 150-500 members employed in the work establishment, one activist is completely exempted from the obligation to work, while retaining existing earnings, bonuses, and privileges. The number of union FTE's increases as the number of union members grows – for each additional 1000 members of the union, there is one extra FTE. This pathological situation leads to higher operating costs of the company and waste of resources, in this case, human resources.

- Extremely high costs to the benefit of trade unions incurred by state-owned companies, which are usually in a difficult financial situation or are being restructured. Private enterprises do not bear such costs; therefore state-owned companies are in difficult competitive market position. It can be stated that bad situation of certain state-owned companies is indirectly dictated by the fact that they have a large number of trade unions. The annual maintenance of trade unions in companies where the State Treasury has shares, costs over 50 million PLN. Costs that companies (10 out of 15) incurred arising from the activities of trade unions were mainly due to the remuneration of members of the trade union boards. They were exempted from the obligation to work for a period of the term on the board while retaining the right to the remuneration. Control carried out by the Supreme Audit Office revealed that in three companies more than one employee was exempted from the obligation to work for a period of the term on the board than it was provided for by the regulations. In accordance with law, trade unions could also exempt employees from the obligation to work (while retaining the right to the remuneration) for the time necessary to carry out temporary work for the union (e.g., renovation of rooms). Trade unions used this back door in KHW S.A. (Katowicki Holding Węglowy S.A.) Employees were given multi-day exemptions, although works commissioned by the trade union were not temporary ones. A record-holder was on such exemption for 452 days within two years. All the controlled companies financed training and conferences for their employees. Auditors of the Supreme Audit Office have identified gross irregularities in two companies that have shown mismanagement and the violation of provisions on the public procurements. For example, KHW S.A. delegated a group of 30 employees to a four-day conference in the UK. The training part covered only one day, and it was between breakfast and lunch. The remaining time was filled with a tourist program. Costs of the delegation amounted to 133,000 PLN. The same company delegated its four employees to a two-week trip to Cambodia organized by one of trade unions. (NIK, 2015)

## 6. Conclusions

Certainly, it is difficult to assess activities of trade unions unambiguously in Poland in companies owned by the State Treasury. On the one hand, they are de facto the only force that defends the employee who in a confrontation with a large economic organization such as the company owned by the State Treasury would not have a greater chance. Trade unions are the force that mitigates often unpleasant results of the restructuring process of companies owned by the State Treasury that affect employees. On the other hand, unfortunately, they are also a destructive force, devastating the organism where they operate.

When evaluating the functioning of trade unions and their impact on companies owned by the State Treasury, it can be observed that trade unions can be a source of many organizational pathologies, resulting primarily from the poor structure of law governing the functioning of trade unions. It is required in this matter to introduce changes towards the limitation of very extensive privileges of trade unions which make them state within a state. Frequently, such trade union operating in a stable, secure environment loses contact with the reality and does not fight for the rights of employees, but for its privileges and keeping status quo.

It is not easy to assess the future of trade unions as in other countries such as France, where their activities bring real benefits to employees as well as employers. Maybe someday trade unions in Poland will cooperate with the government and employers' organization to make real improvements in the labor market and not for their benefits,

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# THE ROLE OF KNOWLEDGE WORKERS IN CREATING INNOVATIVE SOLUTIONS IN MODERN COMPANY

**Michał Igielski<sup>1</sup>**

## **Abstract**

*In this article, the author selected a topic related to the problems that businesses face. This is the result of permanent changes that occur in the surrounding environment. Taking into account the nature of these turbulences and all the determinants of the modern economy, the author states that in the 21st century the success of companies relies heavily on intangible resources (e.g., knowledge) and the potential of staff. Therefore, the purpose of this article is to define the role of knowledge workers in creating innovative solutions for their companies. For this purpose, the author described: contemporary market determinants and characterized the skills and competence of knowledge workers. In addition, the author presented part of the results of the study conducted in 2016, which covered 100 medium-sized enterprises from the Małopolskie Voivodship. Of course, during the research process, the biggest problem was identifying knowledge workers (special criteria were needed to identify them). However, by analyzing the situation in other countries in Europe, we can say that the positive influence of these people on creating new solutions or improving the quality of already existing products or services is unquestionable. This is why it is important to create this group of people optimal working conditions to make the most of their potential.*

**Keywords:** *knowledge worker, globalization, enterprise competitiveness.*

## **1. Introduction**

In the 21st century, conditions for the development of modern companies are very complex, turbulent and unpredictable. They create new barriers for effective strategic management. This situation is the result of phenomena that the author described in the third part of the article, globalization, the IT revolution, and knowledge – the basic intangible asset of the future enterprises.

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New challenges appear suddenly, and companies have to cope with them to become or remain in the market. Can we still be successful in the market, based on our existing models and strategies? Are they still effective and in practice? The answers to these questions are for the managers to learn since they are required to change the way they think – it leads to changes in the functioning of their organizations.

All the more so, over the past decades, we can see big changes in the traditional approach to work – such as computerization of workstations and distance work. The skills and competence of employees have also changed – they have to cope with the new expectations of employers who are involved in identifying and acquiring knowledge. The author talks about knowledge workers, whom he described extensively in part four of the article. They not only systematically acquire knowledge and have a high level of education and unique skills but also have what is most important – the ability to identify dysfunctions in the organization and implement new solutions.

Therefore, the purpose of this article is to try to answer the question: what task do knowledge workers have in creating new solutions for their companies? Problems with the identification of this group of people in Polish conditions, the author described in part 2 elaboration. In addition, the author described the situation with potential benefits and problems that are related to them in the surveyed companies.

According to the author, the topic discussed is vital for economical practice because it is very up-to-date. Most scientists believe that this group of workers will have more to say in the near future. This situation will modify the approach to human capital management in today's organizations. Therefore, we can assume that in such turbulent and unpredictable economic conditions, the success or failure of companies will determine the optimal use of the potential of this group of employees.

## **2. Methodology and description of conducted research**

The influence of employees on building a market advantage of enterprises in the 21st century is unquestionable. This is what the author of the study focused on, conducted in 2016 research, in 98 medium-sized companies from the Małopolska province. At the planning stage of the research process, the author intended to use a deliberately random sampling based on enterprise information contained in the GUS data for 2015. Unfortunately, due to the reluctance of many companies to participate, the author adopted the principle of selection based on his declaration to participate (inquiries were sent to 500 companies ask: are they interested in participating in such a project?).



Unfortunately, the research sample did not reflect the characteristic features of the whole group. Therefore, the presented results are not a complete set - they can only be treated as a pilot study.

The first objective of the study was to identify key employees in the surveyed companies to build competitive advantage and their impact on the creation of new sources (the author described this in another publication). The second objective was to identify, in the above group, knowledge workers and identify their potential role in creating new products or services (this was the third stage of research that the author describes in this study).

The author selected the individual interview as a research method. The research technique was a questionnaire survey in which the research tool was a comprehensive questionnaire survey. Respondents in the first stage of the survey were the owners of the surveyed entities - 98 people, who were to answer what role they had in the performance of their employees, compared to traditional production factors.

In the second stage of the research, the author wanted to isolate new sources of competitive advantage, influenced by the key employees identified in the companies studied. Unfortunately, at this stage, the author was having a hard time picking people who have a real impact on creating the competitive advantage of their companies. The owners, the chief executives, and the HR departments pointed out completely different people than the criteria. After long and difficult analyses, the author finally managed to nominate 296 such individuals - it is an average of 3 employees in one company. In practice, this is just average, because in some companies they have not managed to identify such people at all.

Unfortunately, real difficulties appeared only in the next stage of research, in III, because in the company there was no concept of knowledge worker. Luckily, the author had previous experience in this field (he researched 100 of the large Baltic Sea Region companies in the years 2013-2015, which dealt with the same topic, and he had criteria and conditions influencing the employee's affiliation for other countries. To a group of knowledge workers). After modifying all criteria and adapting them to Polish conditions (Table 1), the author identified 296 previously selected individuals, 27 knowledge workers (less than 10% of the total population). They were employed only in 12 companies, so all the descriptions and conclusions in this article will concern only this part of people and companies.

**Table 1.** Criteria and conditions for belonging to knowledge workers

	<b>Criterion / condition</b>
1.	Professional knowledge
2.	Creativity in everyday work
3.	Courage in implementing innovative solutions
4.	Independence and responsibility in action
5.	Expanding and developing your knowledge
6.	Combine technical skills with managerial skills
7.	High professional culture
8.	Ability to work properly
9.	Dedication to the work done
10.	Ability to work with others
11.	Have confidence in co-workers
12.	Sharing knowledge with others

### **3. Determinants of modern economy**

Contemporary economy, most businesses consider unstable and unpredictable, and the main condition for development is for them to change. This change is not only dynamic but often has indefinite duration. The operation of companies in such times, in which the only constant is that future conditions will be different from the present situation, require a radical change in the development strategies.

In such specific and difficult conditions, we can unambiguously state that an enterprise that fails to change will soon become anachronistic. When competitors are dynamically moving forward on stable positions, it is equivalent to a swift retreat. Ignoring the need for change and the desire to minimize it affects most businesses and is associated with natural humanism. In particular, it is a threat to successful companies. They cannot believe that the factors that have contributed to these achievements in the future will not be enough, and they may even become a ballast. That is why they, as winners and leaders, often fall into complacency and fall short of their successes (Kaleta, 2005, p. 64).

The cause of such a situation is certainly the phenomenon of globalization, i.e., the large-scale integration and long-term integration of national economies, which, through various types of links and cooperation, create a very interrelated economic system on a global scale.

The process of business globalization is a consequence of the changes taking place in the modern economy.

This applies not only to changes forced by technical progress but also to changes in the quality of social and political life that affect the conditions

of international cooperation. Globalization of enterprises causes them to internationalize through the involvement of companies in international production and trade, as well as the ability to provide a full package of services (Adamkiewicz-Drwiłło, 2010, pp. 388-389). This process is helping the IT revolution, which has dominated the world for over 20 years. This is a rapid increase and development of innovations in information technology.

The IT revolution is a positive feedback loop. Products and services (primarily financial and other that have been included in “show civilization”) show significantly higher profitability than others. Moreover, this profitability is also technologically conditioned. Its main reason is the opportunity to reduce transaction time and reimbursement of invested capital radically. In such a situation, research and development spending on new technologies is focused on areas that have the potential to create new products and services (in the most profitable sectors). The intensified tendency to shorten the horizons of economic undertakings does not equal the development of individual economies. In the end, also the global economy. Free capitalists are reluctant to engage in branches where, for objective reasons, vulnerability to computerization and shortening of venture horizons is the smallest (Miszewski, 2015, pp. 32-33).

Another factor that drives change is liberalization in most of the world’s state-owned economies. This phenomenon is particularly evident in countries that undergo systemic transformations. Mostly, it involves the specific release of markets from the control of state power.

At the very end of this calculation, we cannot forget about the modern carrier of competition, which at the end of the last century began to play an increasingly important role - knowledge - not only as a source of information but also an important link in building competitive advantage (we must understand it as a long-term success of the company).

With this statement, many scientists and business practitioners agree. However, it is difficult for us to find in the literature of the subject one definition of this concept, which we will all agree. According to the author of the study, R. M. Grant (2002, p. 227), who believes that gaining competitive advantage is said to have one or more (or potential to obtain) a long-term higher return than the competition from two or more competitors competing in the same market. So far, we can say that competitive advantage is due to the ability of an enterprise to make a higher profit than its rivals. The companies that make it, they create higher values for the customer - they can handle it better than the competition (Porter, 1986, p. 20).

In the realm of such intense competition, the success of businesses can be determined by the ability to become unique in the marketplace. Companies that have a stable and stable market position offer proven products or services,

can no longer be certain about their future. At any moment, they may lose with the permanently emerging competitors, who in some respects will be more unique, that is, they will be interested in something potential customer.

It is very valuable to have a uniqueness that fits the future needs of customers in a typical way. According to the author, even in generating these needs. If a company gains an advantage in meeting needs that have not yet been disclosed to anyone, it will automatically have a valuable time advantage, and it can take advantage of it in the long run. However, the most important kind is the uniqueness that will not give you a big advantage over your competitors, and it will help to defend this advantage and keep it for a long time. This is the result of the process in which the most important and difficult to replicate advantage is the most important in the strategic dimension (Kaleta, 2005, pp. 68-69). But we must remember that such a feature cannot be acquired in the short term. In the 21st century, it already has a strategic dimension - we have to plan, it and we have to be consistent in action.

In sum, all the changes associated with the processes of globalization, the progressive automation of production, the growing competition and the rapid development of information technology are just some of the determinants of the development of modern businesses. They force companies to make drastic changes in virtually every area of their business. However, not every organization can change this effectively to plan and implement. That is why business strategies are often driven by more competent employees, and they place more emphasis on improving their skills and qualifications. Current economic development has led to a change in the valuation of the organization's resources, and he has given the highest place in this hierarchy to human capital.

#### **4. History and meaning of knowledge workers**

Changes in companies are taking place quickly and in all types of industries - from service to manufacturing companies. However, their implementation brings a lot of problems to companies and often causes chaos, which is heavily related to human resources - companies must employ people with the right qualifications and desirable competence.

The most important challenges faced by companies and affecting changes in work resources are (Winslow & Bramer, 1994):

- creating products and services of the highest quality;
- perfect customer service;
- reactions to the environment;
- the ability to carry out differentiated activities;
- transition from control to self-control;

- implementation of changes;
- constant maintenance of productivity; and
- ability to select information flow.

Such conditions are conducive to the development of a new category of employees, such as knowledge workers (this concept may not be new since it emerged in the 1960s but is becoming more popular over time). Their main attribute is the knowledge that comes not only from formal education but above all from continuous self-development - improvement and further training as well as experience gained while working in informal groups. In addition, these employees are characterized by superior creativity, independence in their actions and, perhaps, the most important, courage in creating and implementing innovative solutions to business practice.

As the first notion of knowledge worker to the canon of management in 1969, Ducker introduced only in relation to the kayakers. For another 50 years, this term was evaluated, changes were made to it because it found a wider reverberation in economic practice.

According to Sikorski (2004, p. 346), changes in the role and characteristics of workers were noticed in the United States just before the end of the last decade of the twentieth century. The analysis of generational differences related to attitudes towards work showed that younger workers:

- they are mentally fit for frequent changes in the work it is supposed to give them a quick promotion;
- they are not afraid of change - they are flexible, confident, and willing to take risks;
- they do not want a long career in one company - they do not want to be loyal like their fathers;
- they are result oriented - they have a strong need for achievement, supported by the desire to learn continuously;
- they want to influence the environment; and
- they do not want to be controlled.

In recent years in the literature of the subject and economic practice, there have been many definitions of the concept of knowledge worker. They are often different in terms of presented features. The author will present some of them arranged in chronological order (in this way we can see the evaluation of this complex concept):

- 1) Horibe (1994, p. 23) believed that knowledge worker is a person who uses the mind to create new values.
- 2) On the other hand, Allee (1997) claims, that knowledge worker uses and organizes symbols and ideas while working with information and knowledge. They bring ideas and knowledge to the company to move on to other projects later. It is important that the knowledge worker can influence the shape of the organization and force the introduction

- of the corresponding forms of work since he has a great deal of importance and strength to take care of his business.
- 3) By following Drucker (1999, p. 14, 82), we can see that in the future there will be more visible division of the professionally active into two groups: knowledge workers (specialists) and service workers. The leading groups in the knowledge society will be skilled workers - educated practitioners who can use knowledge for production purposes.
  - 4) On the other hand, Davenport (2007, p. 17, 22) thought that knowledge workers are making a living of thinking. Their work tool is the mind, and every effort associated with performing a profession is intellectual, not physical. They differ from other employees in that they not only process data through thought processes but they also analyze, understand, and qualitatively create new knowledge.
  - 5) Morawski (2009, p. 45) claims that knowledge worker is perceived in the context of formal, often above average education. He combines knowledge in a variety of fields, and he has in-depth expertise along with specific practice-based, specific skills often unavailable to others.

They conclude that if we want to characterize a knowledge worker, we must primarily focus on its core competence: having unique experience and skills, using symbols and symbols in our work, professionalism, mobility, entrepreneurship, adaptability, and creativity.

On the other hand, it is also worth pointing out, following Huang (2011, pp. 933-934), on the motivational features of knowledge workers, for example, autonomy, opportunity for development, satisfaction with tasks, and new challenges. This means that the management of a given content must create the expected conditions for it to optimize its performance. The most common obstacles in this direction are: functional organizational structure, implemented strategy, dysfunctions in the process of internal communication, lack of partnership relations between the participants of the organization (especially on the line: manager - employee), or lack of trust (Mladkova, 2011, p. 257).

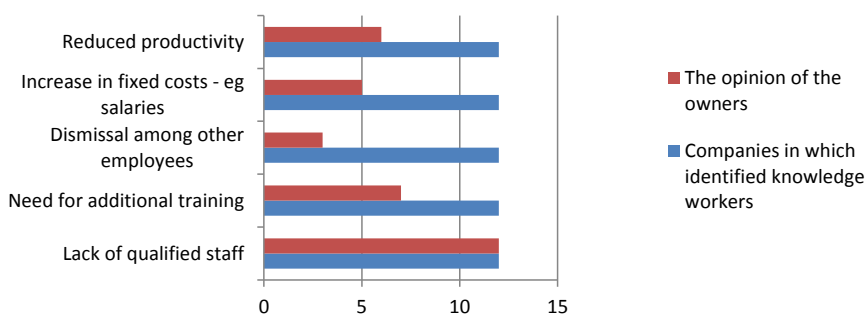
In sum, the most controversial issue is the controversy over the identification of individual knowledge workers in the organization, who can be included in this group, and who is not. It seems, however, that the main determinant of this choice should be the role that a person performs in the organization at a certain time.

This is all the more important in today's market environment, as knowledge workers are now expected to perform many specific roles. In the opinion of the author of the study it is important that for knowledge workers, the knowledge itself is not only raw material/contribution to work but also its result. For

these people, there is no important division into planning and execution - it is completely obliterated. We can call it a phenomenon on a global scale, which is very characteristic of the changes accompanying the development of the modern economy.

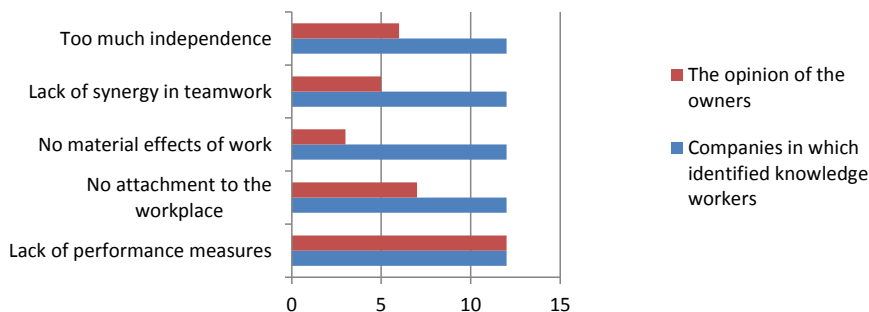
## 5. Analysis of research results

Based on the observations and research conducted by the author of the study, in his view, the use of the knowledge workers' potential in a given economic entity is entirely conditioned by the specifics and determinants of the development of all its components. Therefore, investments in this kind of people have to deal with significant problems and barriers, which are even more cumulative by the difficult economic and social situation in Poland (Figure 1).



**Figure 1.** Identified barriers to exploiting the potential of knowledge workers

In addition to the above identified financial barriers that arise with the knowledge workers in the company, the author also succeeded in isolating the social problems associated with this group of workers during the research process (Figure 2).

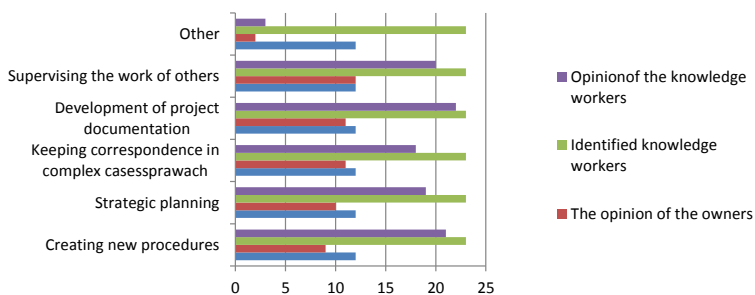


**Figure 2.** Social problems accompanying the work of knowledge workers

But that was not the worst. The most surprising results of research for their author is the opinion of the owners of companies about knowledge workers. On the one hand, knowledge workers are the main element of creating the competitive advantage for the bosses (they are more important than technology, processes, etc.) - 11 of 12 business owners have recognized. Unfortunately, on the other hand, they are the cause of many conflicts with other employees (10 out of 12 companies). In addition, they are the barrier to optimal knowledge management (9 of 12 companies) - they do not share knowledge, they misuse knowledge, and they are not always able to update it.

Another surprise for the author was the usefulness of knowledge workers for the company. By planning the entire research process, the author was convinced that this group of employees plays a very important role in creating and implementing new services and products (this was the case in other countries - RMB research - where knowledge workers were the creators of innovative solutions). Unfortunately, in Polish conditions, they are primarily responsible for the work of planning and organizing the work of others employed. It would not be surprising if it were not for the fact that none of the 23 identified individuals were employed in a managerial position. It is also important that the above conclusion is an objective assessment of two groups: knowledge workers and owners of their companies (see Figure 3 for a detailed scope of responses).

In summarizing all the materials taken, data and conclusions from the research, in Polish conditions, the problems of using the potential of knowledge workers are the result of poor management and lack of appropriate organizational culture to support knowledge management processes. According to the author, there are also shortages of motivation systems dedicated to this group of employees, in terms of their expectations and approach to their work. It is therefore important to start creating individual knowledge management models for companies that are designed to make it easier for those people to carry out their tasks and allow their employers to keep them in the company.



**Figure 3.** Identified areas in the surveyed companies most affected by knowledge



## 5. Conclusions

In the context of globalization, progressive competition and technological change, today's companies are no longer able to build competitive advantage on the basis of any other resource than knowledge workers. They are in their organizations primarily responsible for:

- creating new forms of action;
- organizing work for others;
- strategic analysis of the company;
- strategic planning;
- building relationships with external stakeholders; and
- writing complicated documentation.

Knowledge workers help those companies who are aware that knowledge is the most important asset but have a problem with its optimal use.

Unfortunately, as research shows, most Polish companies do not use this capital to build competitive advantage on a daily basis - they point to a lot of problems and barrier, which concern:

- high expenses and uncertainty of return;
- lack of specific measures of their work - effects are mostly non-material;
- lack of motivation systems; and
- specific characteristics of this group, such as high independence and self-reliance, lack of attachment to the work place, high expectations or a reluctance to perform commands and routine activities.

What can we do in the future to change this? According to the author, the most important step is to recognize this group of employees, and we must treat them as a chance to pursue business goals based on the available knowledge successfully. We also have to let them do what they like and can do:

- create products and services that are distinct from the competition;
- look for market niches and niche in customer needs;
- create and implement new customer contact channels;
- encourage customers to take advantage of the available offer.

This is a big challenge for HR departments that have to face this new group of employees. It is difficult to control a group of talented and talented people who value the full autonomy and value of work in themselves, whose contribution to a company's success will most likely be critical to its operation.

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## Biographical note

**Michał Igielski** is a graduate of political science with a specialization in local government at the University of Gdańsk. He completed post-graduate studies on EU Funds and Human Resources Management. He also finished doctoral studies at Faculty of Management at the University of Gdańsk, and in 2011 received a doctor's degree in economic studies. Since 2006 he has been working at universities where he teaches enterprise, project management, and human resources management. At the moment, he is working at the Gdynia Maritime University where he is a coordinator of EU projects, some of which he has written himself. He is also an academic teacher. Apart from that, for nearly ten years he has been an adviser in enterprises from Baltic Sea Region.

# LEADERSHIP AND CORPORATE SOCIAL RESPONSIBILITY: RESEARCH TOPIC PROFILING

**Andrzej Lis<sup>1</sup>, Barbara Czerniachowicz<sup>2</sup>, and Anna Wieczorek-Szymańska<sup>3</sup>**

## **Abstract**

*The issue of a relationship between leadership and corporate social responsibility is getting more popular and is examined in different contexts. For this reason, the aim of the paper is to map trends in the research on the interface between leadership and corporate social responsibility. Topic profiling methodology is applied to scan a wide body of publications in order to identify key topics and research patterns. The data for analysis were retrieved from Scopus database. The paper discusses the following areas: general topic profiling, journals/topics profiling, authors/topics profiling, subject areas/topics profiling, core references/topics profiling. Finally, the article provides conclusions and recommendations for further studies.*

**Keywords:** *leadership, corporate social responsibility, CSR, bibliometric analysis, topic profiling.*

## **1. Introduction**

The concept of corporate social responsibility (CSR) has been in the center of interest of scholars and practitioners for many years. At the same time it is worth to stress that due to easier access to information on the market, stakeholders of modern organizations expect the more mature approach to the idea of CSR. It means that CSR becomes one of the key elements of enterprise's competitive advantage. To manage this challenge; it is important to engage leaders that can initiate solutions by actively involving and supporting different stakeholders. In this context, the interface between leadership and corporate social responsibility becomes one of the crucial fields of research.

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Specifying the scope of the paper we observe, following Karaszewski and Lis (2014a, p. 1056; 2014b, p. 54), that many scholars discuss both CSR as well as leadership, but nowadays it is important to study these concepts together. Moreover, the emergence of the *Journal of Corporate Responsibility and Leadership* focused on both issues may be considered as another manifestation of the growing interest among researchers in studies on the interface between leadership and CSR.

The aim of the paper is to map trends in the research on the interface between leadership and corporate social responsibility. The study is focused on the following research questions: (1) What are key topics observed in quality publications dealing with the interface between leadership and CSR? (2) How is the attention of source titles (journals) and authors in the field distributed among the identified key topics? (3) How are key topics and keywords distributed among subject research areas? (4) What are the most influential publications related to key topics in the research on the interface between leadership and CSR? (5) What are the recommendations for further studies in the field?

Bibliometric analysis is commonly considered as the methodology relevant to identify research fronts. Referring to the works of Nicholas and Richie (1978), and Potter (1988), Osareh (1996) divides bibliometric analyses into two categories: descriptive studies and behavioral studies also referred to as citation studies. Descriptive studies are used to explore the characteristics of the body of knowledge, while citation studies aim at studying relationships between publications within the research field (Osareh, 1996, pp. 150-151).

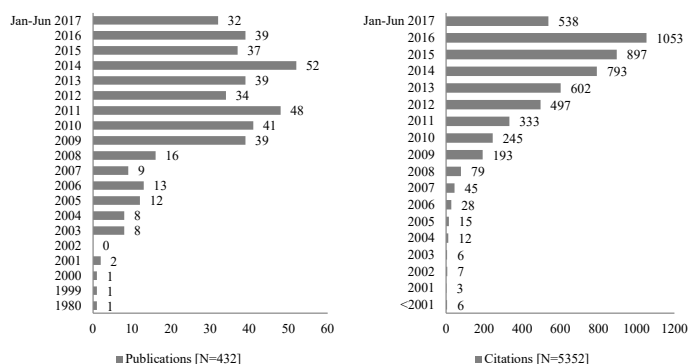
Topic profiling methodology (cf., Porter, Konghton & Lu, 2002) was applied to map the field of research on the interface between leadership and corporate social responsibility. Topic profiling is a component of the research profiling method and represents the stream of descriptive studies in bibliometric analysis. The main idea of this methodology is to scan a wide body of publications in order to identify key topics and research patterns. Data for analysis were retrieved from Scopus database. First of all, publications dealing with the interface between the issues of leadership and CSR were identified. The details of the sampling procedure are explained in the following section. Secondly, keywords included in these publications were analyzed in order to find out those of the highest frequency in the sample. Thirdly, keywords were grouped in clusters used to map most representative research topics in the field (general topic profiling). Then, the identified topics (keyword clusters) were studied in relation to source titles (journal), authors, research areas and core (most cited) references. The studies by Choi, Lee and Sung (2011), and Martinez, Jaime and Camacho (2012) were used as benchmarks for the research procedure.

Some limitations of the aforementioned methodology should be made explicit. Firstly, Scopus database does not include all the publications in the field, focusing on top-end papers published in high-quality journals, which obviously limits the number of records in the sampling process. Secondly, the database is biased to English language publications. Thirdly, grouping of keywords in clusters considered to represent key topics in the research field is flawed with the subjectivity of authors embedded into this procedure.

## 2. Research sampling

Scopus database was used to retrieve data for bibliometric analysis aimed at topic profiling of research on the interface between leadership and corporate social responsibility. Scopus is one of the world most recognized databases of quality research papers. As of January 2016, over 21,500 source titles from more than 5,000 publishers are indexed in the database. Scopus provides access to over 60 million records (Scopus, 2016).

In the sampling process, the pair of phrases ‘leadership’ and ‘corporate social responsibility’ / ‘CSR’ was searched in article titles, abstracts, and keywords of publications indexed in Scopus database. In result, as of July 5, 2017, 432 publications were retrieved. The majority of them (361; 84%) was issued between 2009 and 2017. All the publications under the study received in total 5352 citations. Certainly, the highest number of citations was noticed in recent years. Both characteristics of the research sample confirm the growing interest of the academia in exploring the interface between leadership and corporate social responsibility. Yearly distribution of the number of publications included in the sample and citations they received are presented in Figure 1.



**Figure 1.** Scientific productivity of research on the interface between leadership and CSR

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

### 3. General topic profiling

Keywords included by the authors in publications dealing with the interface between leadership and corporate social responsibility were used for topic profiling of the research field. In order to identify the issues and aspects receiving the most of researchers' attention top keywords were enumerated. The list (Table 1) shows top keywords listed in at least ten publications.

**Table 1.** Top keywords in research on the interface between leadership and CSR

Keywords	[N]
Corporate social responsibility	185
Leadership	94
CSR	33
Sustainable development	30
Ethics	29
Sustainability	29
Business ethics	21
Social responsibility	20
Corporate social responsibilities (CSR)	19
Social aspects	16
Human	15
Responsible leadership	15
Corporate strategy	14
Economic and social effects	14
Corporate social responsibility (CSR)	13
Article	11
Ethical leadership	11
Humans	11
Stakeholders	11
Corporate governance	10
Transformational leadership	10

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

Certainly, 'corporate social responsibility' (in various forms) and 'leadership' are found to be the most often used keywords. However, some other aspects receive a lot of researchers' attention, too. There is observed a strong focus on such issues as ethics, sustainability, human and social aspects, corporate strategy and governance, stakeholders or economic and social effects. In order to find out research patterns, keywords were grouped in clusters mapping most representative research topics in the field. Further analysis included only

clusters consisting of keywords represented in at least 20 publications. In the majority of the cases, categorizations were exclusive, i.e., keywords were assigned to a single cluster. However, we decided to assign the keyword ‘ethical leadership’ to two categories (attributive leadership and ethics). Identified key topic areas (keyword clusters), ranked by the number of publications they relate to, are presented in Table 2.

**Table 2.** Key topics in research on the interface between leadership and CSR

Topics/keyword clusters (number of publications)	Keywords (number of publications)
corporate social responsibility (249)	corporate social responsibility (185); CSR (33); social responsibility (20); corporate social responsibilities (19); corporate social responsibility (13); corporate responsibility (6); social responsibilities (5); CSR policies (2)
leadership (107)	leadership (94), leadership development (9); leadership style (3); leadership styles (3)
ethics (62)	ethics (29); business ethics (21); ethical leadership (11); ethical decision making (4); leadership ethics (3); code of conduct (2); code of ethics (2)
sustainability (57)	sustainable development (30); sustainability (29); corporate sustainability (6); environmental sustainability (4); sustainable business (3); business sustainability (2)
attributive leadership (46)	responsible leadership (15); ethical leadership (11); transformational leadership (10); servant leadership (5); self-leadership (3); spiritual leadership (3); transactional leadership (3);
strategic management issues (38)	corporate strategy (14); competition (7); strategic planning (7); strategy (6); competitive advantage (5); business strategy (4); business model (3); strategic management (3); business models (2); competitive intelligence (2); competitive position (2)
values, attitudes and behaviors (35)	social behaviors (8); corporate citizenship (7); organizational culture (5); motivation (4); citizenship (3); shared value (3); values (3); values congruence (3); attitude (2); attitude of health personnel (2); commitment (2)
environmental issues (23)	environmental management (6); environment (5); environmental sustainability (4); climate change (3); environmental impact (3); environmental issue (3); environmental planning (3); environmental protection (3)
knowledge management and innovations (22)	innovation (7); knowledge management (6); knowledge sharing (6); information management (5); excellence (3); learning (3); best practice (2)

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

The key topic areas in the studies on the interface between leadership and CSR are corporate social responsibility, leadership, ethics, sustainability, attributive

leadership, strategic management issues, values, attitudes and behaviors, environmental issues and knowledge management and innovations.

#### 4. Journals/topics profiling

Top five journals dealing with the issues of the interface between leadership and CSR are *Journal of Business Ethics* (58 papers), *Corporate Governance* (16), *Social Responsibility Journal* (9), *Academy of Management Perspectives* (7) and *Strategic Direction* (6). As there are no keywords included in the records of *Academy of Management Perspectives*, this journal was excluded from the analysis. For all remaining top journals, top keywords were enumerated (Table 3).

**Table 3.** Most frequent keywords in top journals in research on the interface between leadership and CSR

Keywords	JoBE	CG	SRJ	SD
corporate social responsibility	38	14	8	5
CSR	8	-	-	-
leadership	10	14	-	6
responsible leadership	6	-	-	-
ethics	-	4	3	2
business ethics	10	-	-	-
sustainability	6	-	-	-
sustainable development	-	4	-	-
innovation	-	2	-	2
corporate image	-	-	2	-

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

The analysis indicates some trends in journals/topics profiling. In all the journals, corporate social responsibility and ethics (business ethics) are included among top keywords.

What is interesting, *Social Responsibility Journal* leadership is not found among most frequent in case of keywords. *Journal of Business Ethics* shows a lot of interest in responsible leadership and sustainability. The issues of sustainable development are also often presented in *Corporate Governance*. Moreover, the focus on innovations is observed in *Corporate Governance* and *Strategic Direction*, while the corporate image is listed among top keywords in *Social Responsibility Journal*.



In order to ensure comprehensive journals/topics profiling, we complemented the study with pointing out top journals in each of key topic areas in the field (Table 4).

**Table 4.** Top journals in research on the interface between leadership and CSR

<b>Topics/keyword clusters (number of publications)</b>	<b>Journals (number of publications)</b>
corporate social responsibility (249)	Journal of Business Ethics (48); Corporate Governance (15); Social Responsibility Journal (8); Strategic Direction (5)
leadership (107)	Corporate Governance (15); Journal of Business Ethics (11); Strategic Direction (6)
ethics (62)	Journal of Business Ethics (16); Corporate Governance (4); Social Responsibility Journal (3); Management Decision (2); Strategic Direction (2)
sustainability (57)	Journal of Business Ethics (7); Corporate Governance (5); Corporate Governance Bingley (2)
attributive leadership (46)	Journal of Business Ethics (18); Responsible Leadership (3); Journal of Leadership and Organizational Studies (2)
strategic management issues (38)	Strategic Direction (3); Asia Pacific Journal of Tourism Research (2)
values, attitudes and behaviors (35)	Journal of Business Ethics (7)
environmental issues (23)	Journal of Environmental Management (2); Mediterranean Journal of Social Sciences (2)
knowledge management and innovations (22)	Corporate Governance (3); Strategic Direction (2);

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

As deduced from the data collected in Table 4, the majority of key areas in the field share the attention of the same journals. *Journal of Business Ethics* is represented in six among nine categories, while in five cases it is the most prolific source title in the area. Other highly represented journals are *Corporate Governance* (5) and *Strategic Direction* (4).

## 5. Authors/topics profiling

The most prolific authors in the field are Maak (the University of South Australia), Waldman (Arizona State University), Pless (the University of South Australia) and Stahl (Wirtschaftsuniversität Wien). Their research is mainly focused on the issues of responsible leadership (Maak, Pless), transformational leadership and CSR (Waldman), leaders' orientation to social responsibility (Waldman, Pless) and responsible leadership in the international and global

context (Stahl). In order to map researchers' interests more comprehensively, there were identified top authors for each key topic area in the field of studies on the interface between leadership and CSR (Table 5).

**Table 5.** Top authors in research on the interface between leadership and CSR

Topics/keyword clusters (number of publications)	Authors (number of publications)
corporate social responsibility (249)	Benn, S. (4); Groves, K.S. (4); Swaen, V. (4); Voegtlin, C. (4); Lindgreen, A. (3); Maak, T. (3); Metcalf, L. (3); Pless, N.M. (3); Stahl, G.K. (3)
leadership (107)+	Maak, T. (3); Angus-Leppan, T. (2); Benn, S. (2); Kakabadse, A. (2); Kakabadse, N.K. (2); Pless, N. (2); Tuan, L.T. (2)
ethics (62)	Voegtlin, C. (3); Kakabadse, A. (2)
sustainability (57)	Benn, S. (3); Metcalf, L. (2); Stahl, G.K. (2)
attributive leadership (46)	Groves, K.S. (5); Voegtlin, C. (4); LaRocca, M.A. (3); Swaen, V. (3)
strategic management issues (38)	Barabel, M. (2); Couzineau-Zegwaard, E. (2); Hamman, R. (2); Meier, O. (2)
values, attitudes and behaviors (35)	Groves, K.S. (3); Pless, N.M. (2)
environmental issues (23)	Barabel, M. (2); Couzineau-Zegwaard, E. (2); Meier, O. (2); Nwafor, A.O. (2)
knowledge management and innovations (22)	Tang, H. (2)

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

The analysis of the data gathered in Table 5 enables us to point out some patterns and trends in authors/topics profiling. First of all, some topic areas share the interest of the same scholars, e.g., corporate social responsibility and attributive leadership or strategic management issues and environmental issues. Secondly, the list of most the influential authors should be supplemented with Benn (University of Technology Sydney), Groves (Pepperdine University), Swaen (Universite Catholique de Louvain) and Voegtlin (Universität Zurich). The Benn's research is focused on the issues of leadership and sustainability. Groves is mainly interested in transformational leaders' values in the social responsibility context. Swaen examines the interface between corporate social responsibility and human resources management aspects. Voegtlin deals with the ideas of responsible leadership including their studies in the global context.

## 6. Subject areas/topics profiling

The top five subject areas in the field are Business, Management & Accounting (317 related publications); Social Sciences (179); Economics, Econometrics and Finance (127); Arts & Humanities (74) and Engineering (30). Distribution of papers across subject areas and key topic areas in research on the interface between leadership and CSR is presented in Table 6. The subject areas excluded from top five for each of key topic areas are highlighted.

**Table 6.** Top subject areas in research on the interface between leadership and CSR

Topics/keyword clusters (number of publications)	Bus Mgt Acc	Soc- Sci	Eco- 2Fin	Ar- tHum	Eng	Other
corporate social responsibility (249)	184	105	69	53	13	EnvSci - 20
leadership (107)	76	46	18	13	3	Med - 9
ethics (62)	50	29	21	16	1	Psy - 5
sustainability (57)	39	22	10	5	11	EnvSci - 8
attributive leadership (46)	39	23	22	21	0	DecSci - 5
strategic management issues (38)	20	13	5	1	11	EnvSci - 8
values, attitudes and behaviors (35)	22	13	11	5	1	Med - 7
environmental issues (23)	8	8	5	3	6	EnvSci - 6
knowledge management and innovations (22)	15	1	4	0	4	Comp- Sci 4 DecSci - 2

**Note:** Business, Management & Accounting (BusMgtAcc); Social Sciences (SocSci); Economics, Econometrics & Finance (Eco2Fin); Arts & Humanities (ArtHum) and Engineering (Eng); Environmental Science (EnvSci); Medicine (Med); Computer Science (CompSci); Psychology (Psy); Decision Sciences (DecSci).  
**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

Publications representing the subject areas of Business, Management & Accounting, and Economics, Econometrics & Finance are found to be highly relevant to all nine key topic areas identified by keyword clustering. Social Sciences are excluded from the catalog of top five subject areas in case of studies on the aspects of knowledge management and innovations. Art & Humanities and Engineering papers are listed among top subject areas in relation to around half of topics in the field. Moreover, in some cases, other subject areas such as Environmental Sciences, Computer Sciences or Medicine are represented.

## 7. Core references/topics profiling

Top five most cited publications in the field are Jenkins (2006), Jenkins and Jakovleva (2006), Waldman et al. (2006); Epstein and Roy (2001), and van Dierendonck (2011). In order to gather data for core references/topics profiling, we identified top five most cited references within each of nine key topic areas, excluding the references with the number of citations lower than 20. The results of this operation are presented in Table 7.

**Table 7.** Top references in research on the interface between leadership and CSR

Topics/keyword clusters (number of publications)	Most cited references (number of citations)
corporate social responsibility (249)	Jenkins (2006) – 258; Jenkins & Jakovleva (2006) – 255; Jo & Harjoto (2011) – 125; Orlitzky, Siegel & Waldman (2011) – 120; Azapagic (2003) – 107
leadership (107)	Waldman et al. (2006) – 215; Székely & Knirsch (2005) – 149; Camburn, Rowan & Taylor (2003) – 127; Datnow (2005) – 71; Boddy, Ladyshewsky & Galvin (2010) – 45
ethics (62)	Arjoon (2000) – 92; Voegtlin, Patzer & Scherer (2012) – 44; Pies, Beckmann & Hielscher (2010) – 41; Sauser (2005) – 28; Mostovicz, Kakabadse & Kakabadse (2009) – 22
sustainability (57)	Epstein & Roy (2001) – 212; Orlitzky, Siegel & Waldman (2011) – 120; Azapagic (2003) – 107; Hamann (2003) – 72; Datnow (2005) – 71
attributive leadership (46)	van Dierendonck (2011) – 202; Arjoon (2000) – 92; Fry & Cohen (2009) – 57; Groves & LaRocca (2011) – 55; Pless (2007) – 51
strategic management issues (38)	Epstein & Roy (2001) – 212; Hamann (2004) – 73; Hamann (2003) – 72; Liedtka (2008) – 33; Pivo (2008) – 25
values, attitudes and behaviors (35)	Fry & Cohen (2009) – 57; Juholin (2004) – 55; Pless (2007) – 51; Pies, Beckmann & Hielscher (2010) – 41; Panjwani & Caraher (2014) – 29; Hillestad, Xie & Haugland (2010) – 29
environmental issues (23)	Jenkins & Jakovleva (2006) – 255; Epstein & Roy (2001) – 212; Orlitzky, Siegel & Waldman (2011) – 120; Azapagic (2003) – 107; Hamann (2003) – 72
knowledge management and innovations (22)	D’Amato & Roome (2009) – 43; Newell (2008) – 39; Hillestad, Xie & Haugland (2010) – 29

**Source:** own study based on data retrieved from Scopus database (accessed July 5, 2017).

Among 44 papers listed in Table 7, there are only three publications shared by three topic areas. The papers authored by Orlitzky, Siegel and Waldman, *Strategic Corporate Social Responsibility and Environmental Sustainability* (2011), and Azapagic *Systems Approach to Corporate Sustainability: A General Management Framework* (2003) are common for the keyword clusters

referring to corporate social responsibility, sustainability, and environmental issues. The Hamann's study of *Mining Companies' Role in Sustainable Development: The 'Why' and 'How' of Corporate Social Responsibility from a Business Perspective* (2003) is shared by topic areas of sustainability, strategic management issues, and environmental issues.

Five other publications are shared by two topic areas. The study by Jenkins and Yakovleva on *Corporate Social Responsibility in the Mining Industry: Exploring Trends in Social and Environmental Disclosure* (2006) represent top cited references in the topic areas of corporate social responsibility and environmental issues. The topics of leadership and sustainability have in common the work of Datnow titled *The Sustainability of Comprehensive School Reform Models in Changing District and State Contexts* (2005). The paper authored by Pies, Beckmann and Hielscher dealing with the issues of *Value Creation, Management Competencies, and Global Corporate Citizenship: An Ordonomic Approach to Business Ethics in the Age of Globalization* (2010) is found among top cited references for the topic areas of ethics as well as values, attitudes, and behaviors. The keyword clusters related to attributive leadership, and values, attitudes and behaviors share the article of Fry and Cohen focused on *Spiritual Leadership as a Paradigm for Organizational Transformation and Recovery from Extended Work Hours Cultures* (2009). The work of Hillestad, Xie and Haugland on *Innovative Corporate Social Responsibility: The Founder's Role in Creating a Trustworthy Corporate Brand through 'Green Innovation'* (2010) is common for the topic areas of values, attitudes and behaviors as well as knowledge management and innovations. All remaining 36 papers are listed only once among most cited references within key topic areas related to studies on the interface between leadership and corporate social responsibility.

The highest level of interconnectivity among the most cited references is represented by the items included in the topic area of environmental issues. All the five publications from this area are shared with other keyword clusters. Other areas having a lot of co-shared publications are sustainability (5 items), corporate social responsibility (3), and values, attitudes and behaviors (3).

## **8. Conclusions**

In the article, we decided to map trends in research on the interface between leadership and corporate social responsibility. To do so, we used topic profiling methodology. The research was based on 432 publications retrieved from Scopus database.

The analysis shows the growing interest of the academia in exploring the relationships between leadership and corporate social responsibility. This indicates a great importance of the topic and the need for further research.

From data, we conclude that leadership and CSR are analyzed in different contexts, as top keywords in the research refer to ethics, strategic management, sustainability, values and attitudes, environmental issues, knowledge and many others.

What is worth noticing, the issue of leadership and CSR concept are examined not only in Business, Management, and Accounting but also in Social Sciences, Economics, Econometrics and Finance, Arts & Humanities and Engineering. This proves a wide range of interest of researchers in the discussed subject.

Although there are some differences between journals in reference to most frequent keywords dealing with the issues of the interface between leadership and CSR, we state that top journals focus on similar aspects. In all the journals, corporate social responsibility and ethics emerge as top keywords. Moreover, the data analyzed for the purpose of the article show that scholars do their research on similar topics. We named the most influential authors together with fields of their interests.

Finally, we pointed top most cited publications in the field of the interface between leadership and corporate social responsibility. We also identified top five most cited references within each of key topic area. The conclusion is that cited papers cover only some of key topic areas (maximum three at the same time). Most of the papers refer to only one key topic areas related to studies on the interface between leadership and corporate social responsibility. This, in turn, can show the need for a more general research project that would cover more topic areas.

On the other hand, we are aware that topic research profiling of the publications dealing with the interface between leadership and corporate social responsibility should be considered as the first step to explore the field and comprehensively identify research fronts within it. It is recommended to continue the study and apply citation analysis which is found to be a useful tool for “outlining the topical structure of different fields” (Osareh, 1996, p. 154 referring to Marshakova, 1981, p. 13) and “identifying and mapping research fronts” (Osareh, 1996, p. 154 referring to Garfield, 1983, p. 136). For further analyses, the choice should be made among various techniques of citation studies, i.e., direct citation, bibliographic coupling, co-citation coupling and co-citation analysis (Boyack & Klavans, 2010).

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# GENERAL RESEARCH PROFILING FOR THE CONCEPT OF A 'LEARNING ORGANIZATION'

**Andrzej Lis<sup>1</sup>**

## **Abstract**

*The idea of a learning organization has become one of the most prominent contemporary management concepts which attract the attention of the new ranks of researchers. The growing interest of researchers increases the number of publications related to the issue of a learning organization. Nevertheless, so far, the field of the study has not mapped thoroughly, which seems to be a gap in the body of knowledge. Therefore, the aim of the paper is to conduct general research profiling of the studies related to the concept of a learning organization based on the data retrieved from the Web of Science Core Collection database. The key research profiling criteria included in the study are: a publication year, a number of citations, a country/territory, an institution, a source title and an author(s). The study is concluded with the thematic analysis of the most influential papers in the field. The paper is the first step to conduct the comprehensive research profiling of the studies on learning organizations. Further studies will be focused on subject area profiling and full-range topic profiling.*

**Keywords:** *learning organization, publication analysis, bibliometrics, research profiling.*

## **1. Introduction**

The review of the literature indicates the emergence of various organizational forms focused on knowledge management processes (Mikuła, 2006). Their catalogue includes, among others, the concepts of a learning organization (Senge, 1990; Garvin, 1993), an intelligent organization (Quinn, 2005), a knowledge-based organization (Winch & Schneider, 1993; Zack, 2003), a knowledge-oriented enterprise (Morawski, 2006), a knowing organization (Choo, 1996), a competency-based organization (Pohontu, Baulant & Rusu, 2012), or a teaching organization (Tabaszewska, 2010; Tabaszewska-Zajbert, 2014).

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Among them, the idea of a learning organization has become one of the most prominent contemporary management concepts. The idealized form of an organization popularized by Senge (1990) attracts the attention of the new ranks of researchers. Similarly, in the business practice, the philosophy of a learning or intelligent organization (cf., Miękula & Ziębicki, 2000; Czerniachowicz, 2003) is considered to be an imperative to compete in the knowledge-based economy effectively (cf., Beyer, 2012).

Senge describes a learning organization as an “organisation where people continually expand their capacity to create the results they truly desire, where new expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” or “a place where people are continually discovering how they create their reality. And how they change it” (Senge, 1999, p. 3, 13). His definition of a learning organization is as mystical as the title of his seminal work (*The Fifth Discipline*). Trying to operationalize the idea, Garvin, Edmondson, and Gino (2008, p. 110) define a learning organization as “a place where employees excel at creating, acquiring, and transferring knowledge,” Also, they identify three components of learning organizations i.e., “a supportive learning environment,” “concrete learning processes and practices”, and “leadership behavior that reinforces learning.”

The growing interest of researchers increases the number of publications related to the issue of a learning organization. Nevertheless, so far, the field of the study has not been mapped thoroughly, which seems to be a gap in the body of knowledge. Porter, Konghton and Lu (2002) recommend applying the method of research profiling in order to review a wide body of literature in a systematized manner. A search of the combination of phrases a ‘learning organization’ and ‘research profiling’ brings positive results neither in Google Scholar nor the Web of Science Core Collection database. Such an observation points out a niche in the systematic study of the research trends on the concept of a learning organization. Therefore, in order to fill the identified gap, the aim of the paper is to conduct general research profiling of the studies related to the idea of a learning organization. The methodology of research profiling consists of three components, i.e., general publication profiling, subject area profiling and topic profiling. However, in order to ensure the appropriate level of paper quality and meet formal requirements regarding the length of the text, the study is limited to general research profiling. Therefore, the paper should be considered as the first step to conduct comprehensive research profiling of the studies on learning organizations. Further analyses will be focused on subject area profiling and full-range topic profiling.

The Web of Science Core Collection database was used as a source of data for general research profiling analysis. In order to retrieve relevant data,

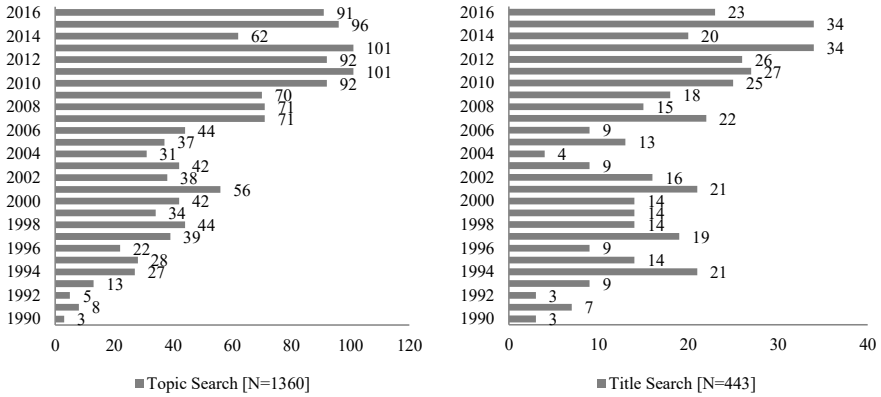
the phrase ‘learning organization’ was queried. Truncation (i.e., searching for ‘learning organi?ation’) was applied in order to include into the analyzed data both British English and American English spelling versions of the ‘learning organization’ phrase. The period of search covered papers published between 1990 and 2016. The beginning of the searched period was the year when the seminal Senge’s work on the concept of a learning organization was issued for the first time. There were two samples selected for analysis according to the topic field search [N=1360] and title field search [N=443]. The topic field search sample consisted of the papers including the ‘learning organization’ phrase in their titles, abstracts, author keywords, and keywords plus. The title field search sample comprised only those papers which included the ‘learning organization’ phrase in their titles. While presenting the research methodology, the limitations of the sampling process should be made explicit. First of all, the Web of Science Core Collection database due to its high-quality requirements includes only a top-end fraction of all the publications in the field. Secondly, the database is biased in regard to the language of publication promoting papers written in English. Thirdly, the analysis of the most influential publications provides an advantage to the earliest works.

The structure of the paper reflects the procedure of general research profiling including the following search criteria: a date of publication, a number of citations, a country, an institution, a source title and an author. The study is concluded with the thematic analysis of the most influential papers in the field. The study procedure is based on the benchmarks of papers published in *Scientometrics* which applied the research profiling procedure (cf. Choi, Lee, & Sung, 2011; Martinez, Jaime, & Camacho, 2012).

## **2. Publication year profiling**

The topic field search sample includes in total 1,360 publications issued in 1990-2016, while there are 443 publications found in this period by the title search. The productivity of the research on the issues of a learning organization, based on the number of papers published per year, is presented in Figure 1.

The number of papers published in the period under the study has increased from 3 (both for the topic and title search) in 1990 to 101 items for topic search (in 2011 and 2013) and 34 items for title search (in 2013 and 2015). The frequency analysis of scientific productivity for a ‘learning organization’ shows growing interest in the topic in the late 1990s and early 2000s, followed by the decrease between 2002 and 2006, and then increase again. Generally, a growing trend is observed which is a manifestation of an increasing interest in the academia in the research on a learning organization concept.



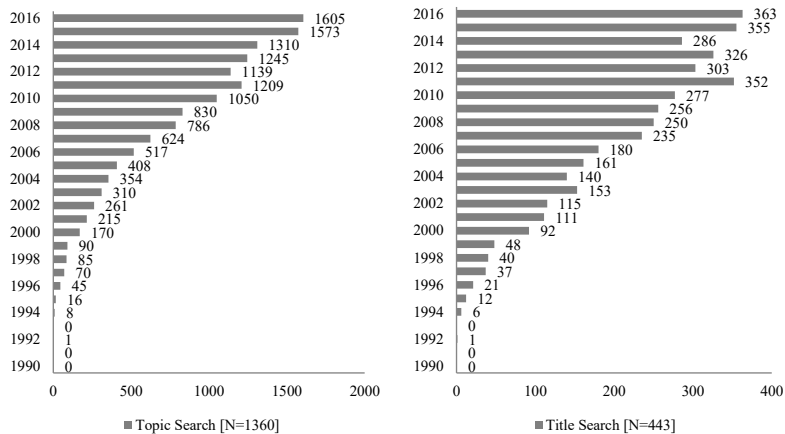
**Figure 1.** Frequency analysis of the scientific productivity for the research on the issues of a ‘learning organization’ (ranked by the publication year)

**Source:** own study based on data retrieved from Web of Science Core Collection.

### 3. Citations analysis

The observation has been confirmed by the analysis of citations, and as of February 19, 2017, the 1,360 publications selected by the topic search have received in total 14,005 citations (12,999 excluding self-citations) from 11,590 articles (11,187 excluding self-citations). It means that the average number of citations per item is 10.30 and the average number of citations per year – 155.61. The h-index shows the value of 51. The 443 publications selected by the title search have received 4,129 citations (3,835 excluding self-citations) from 3,443 articles (3,318 excluding self-citations). It results in 9.32 average citations per item, 158.81 average citations per year and h-index of 22. The increased interest in the academia in the research on the learning organization concept, manifested in the number of citations per year, is presented in Figure 2.

Data presented in Figure 2 confirm the growing interest in research on the concept of a learning organization. In the first part of the decade of the 1990s, very few citations are noticed. Then, a relatively stable rising trend is observed for both samples. The peaks of the number of citations are reported in 2011, 2015 and 2016. Such a finding may be considered as an indication of a revival of research on learning organizations and an optimistic prognosis for the future.



**Figure 2.** Frequency analysis of the scientific productivity for the research on the issues of a ‘learning organization’ (ranked by citations in each year)

Source: own study based on data retrieved from Web of Science Core Collection

#### 4. Country profiling

The productivity in research for the issues of a learning organization is distributed among 82 countries/territories involved in the 1,360 publications analyzed by the topic search. 31 countries/territories contributed with 10 and more publications, while 14 of them – with 20 and more publications. In the case of 443 publications analyzed by the title search, 57 countries/territories are involved, while the threshold of 10 and more publications is achieved by 11 countries. Top 10 of most productive countries/territories are presented in Table 1.

**Table 1.** Top most productive countries/territories in research on learning organizations

Topic Search [N=1360]				Title Search [N=443]			
No.	Country/Territory	[N]	[%]	No.	Country/Territory	[N]	[%]
1.	USA	303	22.28	1.	USA	98	22.12
2.	China	144	10.59	2.	England	39	8.80
3.	England	132	9.70	3.	China	38	8.58
4.	Australia	68	5.00	4.	Australia	15	3.87
5.	Romania	44	3.23	5-6.	Malaysia	14	3.16
6.	Canada	41	3.01	5-6.	Romania	14	3.16
7.	Germany	39	2.87	7.	Turkey	13	2.93
8.	Turkey	31	2.28	8.	Canada	12	2.70

Topic Search [N=1360]				Title Search [N=443]			
No.	Country/Territory	[N]	[%]	No.	Country/Territory	[N]	[%]
9-10.	Netherlands	30	2.21	9.	Indonesia	11	2.48
9-10.	Taiwan	30	2.21	10.	Taiwan	10	2.26

**Source:** own study based on data retrieved from Web of Science Core Collection.

The analysis of the geographical distribution shows that the scientific productivity in research concerning a learning organization is dominated by three regions, i.e., Europe, North America, and Asia. The contributions from other regions (Africa, South America, and Australia) are hardly observable. The top 3 of most productive countries/territories are the United States, China (Peoples Republic of China) and England which together contribute around 40% of all publications on learning organizations registered in the Web of Science Core Collection database. Similar patterns are observed for both samples, which share 9 of 10 top productive countries/territories (except for Germany and Malaysia).

## 5. Institution profiling

The productivity in research for the issues of a learning organization is distributed among 1,190 organizations involved in the 1,360 publications analyzed by the topic search. Among them, 36 organizations contributed to 5 publications and only seven of them with ten publications and more. In the case of 443 publications analyzed by the title search, 410 organizations are involved while only 59 of them contributed to at least two articles and 23 – with three articles. All these data indicate a high level of institutional fragmentation of studies on learning organizations. Top most productive organizations are presented in Table 2.

The analysis of the data collected in Table 2 shows that the most productive institution in the field of research on the learning organization concept is Islamic Azad University from Iran. As regards the topic search, among nine institutions contributing with at least eight papers, the majority represent the countries/territories found to be top contributors to the field (i.e., the USA - 3 universities, Australia, Canada, China, and the UK – 1). However, the group of the most prolific universities includes also institutions from other countries, i.e., Iran and Lithuania. Among the top, most productive organizations identified by the title search even more equal distribution is observed. For instance, there is only one university from the US listed among organizations which contributed to the field with four or more papers.



**Table 2.** Top most productive institutions in research on learning organizations

Topic Search [N=1360]		Title Search [N=443]							
No.	Organization	Country	[N]	[%]	No.	Organization	Country	[N]	[%]
1.	Islamic Azad University	Iran	15	1.10	1-3.	Islamic Azad University	Iran	6	1.35
2.	Harvard University	USA	12	0.88	1-3.	Kaunas University of Technology	Lithuania	6	1.35
3.	University of Toronto	Canada	11	0.81	1-3.	University Teknologi Mara	Malaysia	6	1.35
4-5.	Kaunas University of Technology	Lithuania	10	0.73	4-5.	Harvard University	USA	5	1.30
4-5.	Pennsylvania State University	USA	10	0.73	4-5.	Wuhan University	China	5	1.30
6-7.	University Lancaster	UK	10	0.73	6-7.	SS Cyril Methodius University	Macedonia	4	0.90
6-7.	Wuhan University	China	10	0.73	6-7.	University Lancaster	UK	4	0.90
8-9.	University of Colorado	USA	8	0.59					
8-9.	University of Queensland	Australia	8	0.59					

**Source:** own study based on data retrieved from Web of Science Core Collection.

## 6. Source title profiling

The data indicate that 1,360 articles were published in 995 source titles (e.g., journals, conference proceedings, books). 45 sources include at least five papers, while ten of them have ten papers and more. As regards 443 articles selected by the title search, they are distributed among 363 sources, while only eight source titles have five papers or more. Top most prolific source titles are presented in Table 3.

Top 10 of most prolific source titles represent 148 papers which are an equivalent of 10.9% of the topic search sample. Regarding the title search sample, top eight of most prolific source titles include 72 papers (16.2%). It means that the concentration ratio is relatively low and publications are dispersed among numerous sources. For both samples, *Management Learning* is found to be the most prolific source title in the field. What is worth noticing, conference proceedings and handbooks play an important role among the most prolific source titles in the field of learning organizations.

**Table 3.** Top most prolific source titles in research on learning organizations

Topic Search [N=1360]		Title Search [N=443]					
No.	Source title	[N]	[%]	No.	Source title	[N]	[%]
1.	Management Learning	31	2.28	1.	Management Learning	19	4.29
2.	Procedia – Social and Behavioral Sciences	30	2.21	2-3.	Elgar Original Reference	18	4.06
3-4.	Elgar Original Reference	18	1.13	2-3.	Handbook of Research on the Learning Organization: Adaptation and Context	18	4.06
3-4.	Handbook of Research on the Learning Organization: Adaptation and Context	18	1.13	4.	Procedia – Social and Behavioral Sciences	14	3.16
5.	Advances in Social Science, Education, and Humanities Research	15	1.10	5-6	Advances in Social Science, Education, and Humanities Research	8	1.81
6.	Training & Development	13	0.96	5-6	Training & Development	8	1.81
7.	Proceedings of the 3 <sup>rd</sup> International Seminar and Conference on Learning Organization ISCLO 15	12	0.88	7.	Proceedings of the 3 <sup>rd</sup> International Seminar and Conference on Learning Organization ISCLO 15	7	1.58
8.	Learning Organization	11	0.81	8.	Long Range Planning	5	1.13
9-10.	Proceedings of the International Conference of Intellectual Capital Knowledge Management Organizational Learning	10	0.73				
9-10.	Systemic Practice and Action Research	10	0.73				

Source: own study based on data retrieved from Web of Science Core Collection.

## 7. Authors profiling

The 1,360 publications selected by the topic search involve 2,548 authors. Among them, there are 227 authors who contributed to two or more papers, 61 contributors with three or more papers, and 24 of them with four or more papers. The sample selected for the title search was produced by 841 authors, among whom there are 64 contributors with at least two papers and ten with three papers or more. Table 4 shows top most prolific authors.

**Table 4.** Top most prolific authors in research on learning organizations

Topic Search [N=1360]			Title Search [N=443]		
Author	[N]	[%]	Author	[N]	[%]
Örtenblad A.	12	0.88	Örtenblad A.	9	2.03
Nazem F.	7	0.51	Bejinaru R.	4	0.90
Ciocarlan-Chitucea A.	6	0.44	Salleh K.	4	0.90
Liu T.-Y.	6	0.44	Santa M.	4	0.90
Chivu I.	5	0.37	Hussein N.	3	0.68
Chu Y.-L.	5	0.37	Ishak N.A.	3	0.68
Ehrlich U.	5	0.37	Lipinskiene D.	3	0.68
Popescu D.	5	0.37	Noordin F.	3	0.68
Voolaid K.	5	0.37	Nurcan S.	3	0.68
Watkins K.E.	4	0.29	Watkins K.E.	3	0.68

**Source:** own study based on data retrieved from Web of Science Core Collection.

Top ten of most prolific authors for the topic search sample produced in total 40 publications, which received 345 citations (324 excluding self-citations) from 313 articles (299 excluding self-citations). It is an equivalent of 8.62 average citations per item, 19.17 average citations per year and h-index of 8.

Concerning top ten of the most prolific authors for the title search sample, 30 publications are identified which received 81 citations (68 without self-citations) from 75 articles (65 without self-citations). In this case, average citations are even lower – 2.70 per item, 4.50 per year. H-index reached the value of three.

The most prolific author for both samples is Anders Örtenblad from Nord University (Norway), whose number of publication is remarkably higher than any other contributor (12 items for the topic search sample and nine items for the title search sample). What is interesting, the two samples share only two most prolific authors i.e. Anders Örtenblad and Karen E. Watkins from the University of Georgia (the United States). Another remarkable finding is that the identified most prolific scholars authored only one of the most influential papers in the field (i.e., Liu & Chu, 2010; cf. Table 5) selected due to the number of received citations.

## 8. Thematic analysis of the most influential publications

The bibliometric analysis of citation frequency (Figure 2) was supplemented with the identification of the most influential works in the field (cf. Table 5) selected due to the highest number of citations. Such a selection shows a natural tendency to promote the earliest publications while neglecting the recent ones. In order to mitigate the bias mentioned above, the list of top ten publications with the highest total number of publications was supplemented with papers which achieved a higher average number of citations per year than the 10<sup>th</sup> most influential paper (Ramus & Steger, 2000).

**Table 5.** Top most influential publications (by the number of citations) in research on learning organizations

No.	Author(s)	Publication year	Title	Journal	Citations	
					Total	Average per year
1.	Slater, S.F., Narver, J.C.	1995	Market Orientation and the Learning Organization	Journal of Marketing	1219	53.00
2.	Garvin, D.A.	1993	Building a Learning Organization	Harvard Business Review	778	31.12
3.	Carter, C.R., Rogers, D.S.	2008	A Framework of Sustainable Chain Management: Moving Toward New Theory	International Journal of Physical Distributions and Logistics Management	451	45.10
4.	Kim, D.H.	1993	The Link between Individual and Organizational Learning	Sloan Management Review	412	16.48
5.	Ferlie, E.B., Shortell, S.M.	2001	Improving the Quality of Health Care in the United Kingdom and the United States: A Framework for Change	Milbank Quarterly	397	23.35
6.	Simonin, B.L.	1997	The Importance of Collaborative Knowledge: An Empirical Test of the Learning Organization	Academy of Management Journal	342	16.29
7.	Vorhies, D.W., Morgan, N.A.	2005	Benchmarking Marketing Capabilities for Sustainable Competitive Advantage	Journal of Marketing	299	23.00

No.	Author(s)	Publication year	Title	Journal	Citations	
					Total	Average per year
8.	Nevis, E.C., Di-Bella, A.J., Gould, J.M.	1995	Understanding Organizations as Learning Systems	Sloan Management Review	269	11.70
9.	Hines, P., Holweg, M., Rich, N.	2004	Learning to Evolve: A Review of Contemporary Lean Thinking	International Journal of Operations & Production Management	265	18.93
10.	Ramus, C.A., Steger, U.	2000	The Roles of Supervisory Support Behaviors and Environmental Policy in Employee "Ecoinitiatives" at Leading-edge European companies	Academy of Management Journal	224	12.44
11.	Braunschaidel, M.J., Suresh, N.C.	2009	The Organizational Antecedents of a Firm's Supply Chain Agility for Risk Mitigation and Response	Journal of Operations Management	207	23.00
25.	Liu, T.-Y., Chu, Y.-L.	2010	Using Ubiquitous Games in an English Listening and Speaking Course: Impact on Learning Outcomes and Motivation	Computers & Education	107	13.38

**Source:** own study based on data retrieved from Web of Science Core Collection.

Narrowing the research area to Business and Economics excluded two items (Ferlie & Shortell, 2001; Liu & Chu, 2010) from the sample. All remaining most influential publications were the subjects for content analysis.

Slater and Narver (1995) explore the processes of organizational learning, analyze their roles for creating firm competitive advantages and study the culture and climate conducive to organizational learning dealing with such issues as market orientation, entrepreneurship, facilitative leadership, organic structure and decentralized strategic planning. Garvin (1993) calls for operationalizing the idea of a learning organization by defining its meaning, setting the principles of managing such an organization and establishing measures of it. His concept is built around five building blocks of learning organizations which include: systematic approaches to solving problems, experimentation for new knowledge, experiential learning from past failures and successes, learning from other companies and customers, and effective transfer of

knowledge. Carter and Rogers (2008) analyze four strands of literature from various scientific disciplines, i.e., resource dependency, transaction costs economics, population ecology, and resource based view in order to build up the framework of sustainable supply chain management. In their analysis, they pay attention to the issues related to learning and the concept of a learning organization which leads them to setting the proposition that “[s]upply chains which integrate social and environmental resources and knowledge may be more difficult to imitate, thus leading to economic sustainability” (Carter & Rogers, 2008, p. 374). Kim (1993) theorizes about the relationships between individual and organizational learning. He uses the concept of mental models to explain the transfer from the level of individual learning to organizational learning. Although focusing directly on learning processes rather than on the concept of a learning organization, Kim contributes to understanding the mechanisms how organizations can become learning organizations. Simonin (1997) studies how organizations learn from strategic alliances. He assumes and empirically validates that companies characterized by greater collaborative experience are able to achieve better collaborative know-how, which turns into tangible and intangible benefits from inter-firm cooperation. Focusing on capitalizing from the inter-organizational learning processes, Simonin contributes to the discussion on building learning organizations with the finding that lessons from collaborative experience, to become valuable, must be first internalized and combined with intra-organizational knowledge, and then applied for actions of a company.

Vorhies & Morgan (2005) discuss benchmarking as a key learning mechanism used to develop the firm marketing capabilities in order to strengthen competitive advantage. Nevis, DiBella and Gould (1995) study learning organizations from the systems perspective in order to identify the characteristics (‘orientations’) of learning organizations and their antecedents (‘facilitating factors’). The ‘orientations’ are the pairs of features describing the styles of organizational learning and they include: preference for acquiring external knowledge or developing it internally, focus on product- or process-related knowledge, the choice between the personal or public documentation mode, the bias towards personalization or codification approaches to knowledge sharing, the focus on continuous and incremental learning or radical and transformative learning, the emphasis on learning processes in design and manufacturing stages of the value chain or rather on sales and marketing, preference for individual or collective learning. The catalogue of the factors facilitating the development of learning organizations identified by Nevis et al. (1995) encompasses: imperative for scanning and gathering information, perceiving a knowledge gap as an opportunity for learning, developing measures for learning processes, experimentation mindset, climate

of openness, striving for education, variety of applied methods and procedures, the engagement of employees and leaders, and the systems approach. Hines, Holweg, and Rich (2004) seek for the conceptual affinity of the development of concepts of lean thinking and organizational learning. They compare and contrast the stages of the lean management implementation process with the McGill and Slocum's (1993) model of transformation from a 'knowing organization' through an 'understanding organization' and a 'thinking organization' to a 'learning organization.' Ramus and Steger (2000) use the survey of literature related to the concept of a learning organization to identify the supervisory behaviors supporting the creativity of employees and develop 'Behaviorally Anchored Rating Scales of Supervisory Behaviors.' Then, this instrument is applied to examine employee willingness to create environmental innovations. Braunscheidel and Suresh (2009) empirically test the influence of market and learning orientations on the organizational practices of internal integration, external integration and external flexibility which are considered to be the antecedents of firm's supply chain agility. Referring to Sinkula, Baker and Noordewier (1997), Braunscheidel and Suresh (2009, p. 122) consider a learning orientation as "an organizational value that influences the tendency of an organization to create and use knowledge, and hence, to learn and adapt." They also identify the three following characteristics of it: commitment to learning, shared vision, and open mindedness. They prove that a learning orientation is a strong and direct determinant of internal integration only.

Analyzing the most influential publications related to the issues of a learning organization, some interesting trends may be identified. Among them, certainly, there are papers operationalizing the concept of a learning organization by identifying its features, building blocks or antecedents (cf. Garvin, 1993; Nevis et al., 1995). The second category of papers focuses on relationships between individual- and organizational learning and inter-firm and organizational learning in creating learning organizations (Kim, 1993; Simonin, 1997). The third group includes publications which analyze the idea of a learning organization or related organizational learning processes and orientations as antecedents of firm competitive advantage (Slater & Narver, 1995; Vorhies & Morgan, 2005), supply chain management (Carter & Rogers, 2008; Braunscheidel & Suresh, 2009), or innovations (Ramus & Steger, 2000). Finally, the fourth category focuses on relationships and affinities between the idea of a learning organization and other management concepts, e.g., lean management (Hines et al., 2004).



## 9. Conclusions

Summing up, in the analyzed period (1990-2016), the growing trend is observed in regard to the number of publications including the 'learning organization' phrase in their title or topic research fields. It may be considered as a manifestation of an increasing interest in the academia in the research on the concept of a learning organization. Nevertheless, the frequency analysis of scientific productivity for a 'learning organization' indicates fluctuations of this interest. The first wave of the growing interest in the topic was observed in the late 1990s and early 2000s. Then, the decrease in the number of publications was noticed between 2002 and 2006. Since 2007, the second wave of research interested in research on learning organizations has been reported. The growing interest in research on the concept of a learning organization is confirmed by the citation analysis. What is more, both the numbers of publications and citations in recent years may be manifestations of a revival and an optimistic prognosis for the future of research on the concept of a learning organization.

The observations above should be considered in a wider trend of the growing research interest in attributive concepts of an organization such as an intelligent organization or a creative organization. Certainly, all these concepts are developed through the process of organizational learning. However, they shift the center of gravity to aims and various forms of learning as well organizational adaptation to new emerging antecedents. Therefore, the idea of a learning organization is to be perceived only as one of the concepts focused on adaptive approaches undertaken by contemporary organizations operating in turbulent environments<sup>2</sup>.

The scientific productivity in research concerning a learning organization is dominated by three regions, i.e., Europe, North America, and Asia. The top three of most productive countries/territories are the United States, China (Peoples Republic of China) and England. The most productive institution in the field of research on the learning organization concept is Islamic Azad University from Iran. The majority of the most productive institutions represent the countries/territories found to be top contributors to the field (i.e., the USA, Australia, Canada, China, and UK). However, the group of the most prolific universities includes also institutions from other countries, i.e., Iran, Lithuania, and Macedonia. Concentration ratio among source titles is relatively low, and publications are dispersed among numerous sources. *Management Learning* is found to be the most prolific source title in the field. Conference proceedings and handbooks play an important role among the most prolific source titles in the field of learning organizations. Anders Örténblad from Nord University

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<sup>2</sup> The author is grateful to the anonymous reviewer for suggesting this observation.

(Norway) is found to be the most prolific author writing on the issues of a learning organization. However, in general, the disjunction between the most prolific and the most influential authors is noticed. The list of top 12 most influential (highly cited) papers includes only one publication authored by a representative of the most prolific researchers in the field.

Summing up, this general profiling study makes the first step to thoroughly analyze research efforts and outcomes in the field of a learning organization. Due to the limitations explained in the introduction, the paper should be considered as an element of a wider study including subject area profiling and topic profiling.

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# CAREER SHAPING OF A TALENTED EMPLOYEE

**Anna Mazurkiewicz<sup>1</sup>**

## **Abstract**

*Contemporary career is perceived more like an individual's property, as opposed to the traditional understanding of an organization property or profession. The principal responsibility for its shape and conduct is taken over by an employee. It is interpreted primarily in a personal, subjective way. Career paths are created in time, space, which will be recognized by an individual as beneficial. Also, the career direction and the interpretation of its success have an individual dimension. This observation is particularly relevant for talented individuals who have a disproportionate impact on the organization performance. If they leave the organization, it poses a serious threat to its functioning and development. Talent management is interpreted primarily taking into account the organizational aspect. It is, therefore, important to build employees' relationships with the organization, which requires both strategic and individual perspective.*

**Keywords:** *talented individual, career shaping, protean career, boundaryless career, talented employee career.*

## **1. Introduction**

Socio-cultural, political and economic changes that are a consequence of “qualitatively new transformations in relations between globalization and locality, state and society, society and individuals” (Cybal-Michalska, 2012, p. 193), affect the style and quality of life, both private and professional, including career development. Contemporary career models, such as the protean career or the boundaryless career enable self-fulfillment, especially for talented individuals, to satisfy their aspirations. Talented employees are perceived today as a source of competitive advantage – they have all the assets attributed to strategically valuable resources: value, rarity and difficulty in imitation, and they do not even have substitutes (Barney, 1991). Their strategic character is reflected in influencing the performance of the organization (Pauwe & Richardson, 1997), and the loss of talent is a threat to its development (see

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Stec, Filip, Grzebyk & Pierścieniak, 2014). Hence, the strategic perspective is also adopted for the management of talented employees (Cheese, Thomas & Craig, 2008; Collings & Mellahi, 2009; Silzer & Dowell, 2010).

Career is now interpreted primarily from the perspective of an individual (Table 1); it is perceived more like a property of its own – a counter-position to traditional interpretation as a structural property of an organization or profession (Bańka, 2007). An employee plays the key role and takes the primary responsibility for its shape and progress. The attention is paid to the activity of which an individual can benefit and develop their potential in the context of individual career goals. Career takes into account transitions between organizations, and often the change of a profession (specialty) or a form of employment. At the same time, it is managed in the organization (Baruch, 2004), which means planning and execution, monitoring individual goals and strategies, harmonizing the needs of organizations and employees. Career management is a formal process. In contrast, in shaping the career an employee plays the main role - the actions that he takes, considering individual goals and values, are decisive. He manages both the organization and the individual, so it is a matter of a broader meaning than a career.

From the organizational perspective, the career management issue, as a process of human resources management, is operational. This means that the importance of a career for an organization falls to a level below the strategic one (Ingram, 2014).

**Table 1.** Career management versus talent management in the literature of the subject

<b>Criterion</b>	<b>Career management</b>	<b>Talent management</b>
Continuity importance	Low	High
Focus on career management	Individual (psychology)	Organizational(strategy)
Accountability for career management	Self (protean)	Organization (paternalistic)
Mobility preference	Inter-organizational (boundaryless)	Intra-organizational (bounded)
Number of formalized career management practices	Low (focus on career self-management)	High (focus on organizational career management)

**Source:** De Vos & Dries (2013, p. 1817).

Career and talent issues, despite contradictory assumptions in the core areas of interest, are not competitive but complement each other. Hence, the purpose of the theoretical elaboration was to identify the complementary nature of the

issue of career and talent. The goal was to present the essence of talent and show its importance to the organization. In the next part, the attention was paid to the characteristics of selected contemporary career models, referring to the activity of talented individuals. These reflections were made on the basis of critical analysis of domestic and foreign literature, especially in the field of management sciences. An important contribution to the research was the insights formulated in the literature on psychology. In the final part of the article, the conclusions were drawn from the investigations.

The article is of a theoretical nature. Its aim is to identify the complementary nature of the career and talent issue. To achieve this goal, it was necessary to present the essence of talent and to show its importance to the success of the organization. The next part focused on the characteristics of selected contemporary career models, referring to the activities of talented individuals. These considerations were made by critical analysis of domestic and foreign literature, especially in the field of management sciences. An important supplement to the investigations carried out were observations formulated in the literature on psychology. In the final part of the study, the conclusions from the investigations were drawn. Traditional organizational career is not a thing of the past - career continues to be a means of achieving the organization's strategic intentions, especially during the ongoing "talent war." Temporary employment relationships and the high mobility of talented individuals mean that for this group of employees, organizations should strive to build long-term relationships as a result of managing their careers within the organization.

Therefore, careers that are individual and subjective should be determined to take into account the situational context. This approach stresses the active role in shaping the careers of both organizations and individuals. At the same time, career insights can make a valuable contribution to formulating recommendations on how an organization can succeed using specific careers for talented individuals.

## **2. The concept of talent**

The concept of talent has been a subject of interest for a long time, but so far none of its definitions have had successful results. As a property of relevance to the effectiveness and of human activity, it is of interest in all areas of human life. Talent, reflecting on human activity and the results of its action, is one of the categories that are constantly explored in many disciplines of science, including economics, management, psychology, philosophy, and sociology. The ambiguity of the notion of talent is also because it may vary between

organizations or change over time in a given entity. For this reason, talent is a blurred concept, difficult to define and measure.

The fundamental basis for differentiating the consideration of talent in the literature of the subject is to perceive it as an attribute of an individual or entity in which these characteristics are embodied, which is identical to the objective and subjective approach (Table 2).

Talent refers primarily to an individual, but its definition also has consequences at the organizational level. In the organization, it is identified with impressive, outstanding achievements (Simonton, 2011), with great potential for further development (Głowacka-Stewart & Majcherczyk, 2006), and thus exceeds the current organization's expectations and is expected to be in the future too (Berger & Berger, 2011).

**Table 2.** Talent interpretation

Objective approach	Subjective approach
An ability to do something High degree of aptitude in a field of human activity An above average ability for a specific skill	A man endowed with the qualities of talent

**Source:** own study based on Sillamy (1994, p. 291); Szewczuk (1985, p. 311); Reber & Reber (2008, p. 778).

Following Poczowski and Miś (2008) it can be stated that talented employees are characterized by:

- an orientation to the realization of an internal goal, which remains unchanged within a long time;
- strong internal motivation;
- internal control location;
- interest in development opportunities, self-fulfillment at work, to a lesser extent – external reinforcements (it is important within our standards of excellence, experience, and knowledge of personal interests).

The attributes presented refer to a talented employee as a pattern, which means that they represent the extreme position. Talent is an individual that does not necessarily represent the highest level of these qualities, but – when interpreted in the context of talent identification criteria (Table 3) – meets expectations in a superior way.



**Table 3.** Criteria of talent identification

<b>Criterion</b>	<b>Criterion description</b>
excellence	superiority to the peers in some dimension or set of dimensions
rarity	high level of an attribute that is rare amongst the peers
productivity	dimensions, which lead to or potentially lead to productivity
demonstrability	an individual's superiority demonstrable through one or more tests that are valid assessments
value	superior performance in a dimension that is valued by the society

**Source:** Sternberg (1993).

The interpretation presented shows that - having regard to the organizational aspect - talent is useful for an organization. In this context, talents that are irrelevant or unnecessary are not taken into account. Critical and distinctive talents are of fundamental importance (Tannenbaum, 1986, after Chełpa, 2005).

### **3. The importance of talent in an organization**

The above definitions show that talents have distinctive characteristics that determine outstanding performance. As talented and creative individuals, they show more internal motivation than others, which makes them more resistant to hardship and more predisposed to cope with difficult situations. They are more diligent and persistent, they engage in the field of the preferred field and devote a lot of time to it. They are characterized by curiosity, and the pursuit of personal development (Sękowski & Jurko, 2010). These attributes contribute to the positive results of the actions taken. The focusing talent on reflection, the consciousness of own abilities, sense of inner distance (towards oneself and active activity) ensure the effectiveness of action. Adequate and high self-esteem allows ambitious tasks (challenges are motivating factors for talented individuals) and their satisfactory performance. Successes lead to high self-esteem and consequently to positive self-esteem, which strengthens perseverance in pursuit of goals. Talented individuals are also resistant to stress, which makes them capable of performing tasks in difficult situations (Chełpa, 2005).

The presented talent profile shows that one cannot overestimate its importance in an organization. It is characterized by great efficiency in the performance of job functions. In addition, it supports the achievement of organizational goals and contributes to meeting competitive pressure (Jabłoński, 2015).

The efficiency and tactile aspect of talent activity distinguish it from other employees. Talented individuals have a significant impact on the functioning of the organization, its current and future performance. The loss or absence of talent poses a serious threat to quantitative and qualitative deficiencies in human capital, significantly slowing the organization's development (Berger & Berger, 2011). According to Boudreau and Ramstad (2005), the talent market is as important to the success of the organization as finance or marketing. At the same time, it should be kept in mind that the talent is independent of the organization and remains at its disposal only temporarily. Hence, in order to benefit from the work of talented individuals, the organization should provide conditions for the use of their talents and development. Talent can be managed in its developmental. This means that one can raise the value of talent and influence its activity in the desired direction and it can only happen if employees are willing to stay in the organization (Paauwe & Boselie, 2005). Priority should be given to the creation of a work environment conducive to their high involvement, as capacities emerge in favorable conditions, while the need arises (Shevchuk, 1998). In order to meet the individual needs and expectations of talented individuals, it is important to create opportunities to pursue a career within the organization, which will also prevent them from leaving.

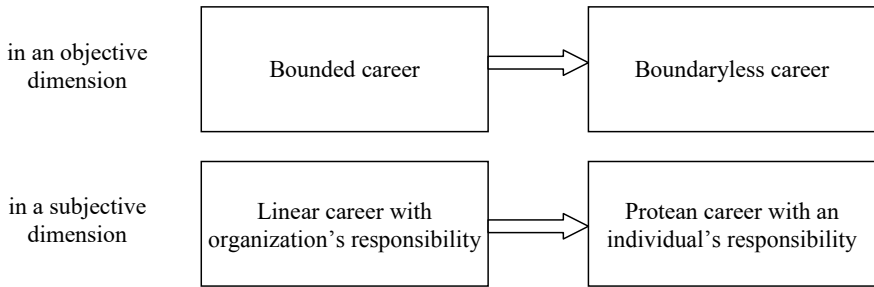
#### **4. Career of a talented individual**

Contemporary career models differ greatly from the traditional career characteristic of organizations operating in relatively stable conditions (Strykowska, 2002), where the course of the career was relatively predictable (Bohdziewicz, 2010). The main determinant of success was the promotion, which was realized mainly in the vertical structures. Career was accomplished in a few organizations (one, two), and the organization was responsible for the management (Sullivan, 1999).

Contemporary career, due to changes in employment relations – between an individual and an organization, is perceived more like the property of the individual as its implementer (Bohdziewicz, 2008). It is interpreted personally, objectively, it refers to a particular person. In addition, it is not limited to vertical promotions or high-profile occupations. It focuses on the experience of broadly interpreted employment, including leisure activities but relates to employment (Bańka, 2005; Hall, 1976; Greenhaus & Callanan, 1994). Career paths are created at time, space that an individual will recognize as beneficial. Also, the direction of career and the interpretation of success have an individual dimension.

This observation is particularly relevant for talented individuals who are aware of their strengths and are willing to leave the organization if they cannot afford an opportunity to pursue their individual goals and aspirations. In the

context presented, the importance of the boundaryless career and the protean career is emphasized. These models represent a complementary perspective of contemporary careers (Figure 1).



**Figure 1.** Contemporary career transformations

Source: Bohdziewicz (2010).

The protean career is defined as the one that is managed by a person, and is based on individually defined goals, covering the entire living space, directed by psychological success, instead of objective, such as remuneration or authority (Briscoe & Hall, 2006). It is identified by frequent change, own invention and independent work (Hall, 2002). It reflects freedom, self-direction of careers, and choices based on personal values (Briscoe & Hall, 2006). This model provides the freedom and independence of action and the variety of experience that is the basis for further professional development. It emphasizes the importance of the potential of an employee, relevant for their career, which is of particular importance for talented individuals. Due to the increased permeability of the organization's borders, the importance of a boundaryless career is also growing and it is characterized by being unrelated to one organization, uninteresting in sequence, marked to a small degree by vertical coordination and stability (Briscoe & Hall, 2006). Boundaryless career employees have greater independence from the employer than traditional careers. This model is suitable for talented individuals for whom finding a job with another employer is not problematic because of their high value in the labor market and at the same time high mobility. On the contrary, the boundaryless career creates many opportunities for professional development, but on the other hand, it is associated with negative consequences, including the loss of valuable resources for organizations. Organizations should, therefore, provide conditions for a career within their structures to prevent talents leaving.

This means that in the case of talented individuals, the focus should be put on the issues that are characteristic for the protean career. The issues addressed in the subject matter of the boundaryless are, on the other hand, to be pertinent to the organization and to shape it by creating conditions for internal mobility.

Such an approach will help meet the needs of talented individuals while shaping their careers will contribute to the strategic intentions of the organization.

## 5. Conclusions

The considerations conducted show that talent and career issues are based on mutually contradictory assumptions – the career is perceived primarily in terms of goal setting and responsibility, and a large role is attributed to employee’s mobility between organizations. The importance of the individual’s personal potential in career development is emphasized. Its interpretation does not refer exclusively to working life. On the contrary to the issue of talent, which is interpreted especially in relation to its activity in the organizational aspect, taking into account the results achieved. The adoption of this approach means focusing on talent management from a strategic perspective.

Both issues, despite contradictions in the core areas of interest, complement each other. Career management for talented employees should contribute to the strategic goals of the organization. The characteristics of a talented individual (especially the pursuit of personal development), and especially their actions, show that they have a significant part in shaping their career, personal and organizational achievements. Careers are determined by taking into account the situational context that affects the individual’s adaptation and social and emotional functioning (positive or negative), reflected in the level of achievement (Sękowski & Jurko 2010).

At the same time, in organizations with a high share of talent, the issue of high fluctuation is of key importance. This implies the need to strengthen the organizational commitment of talented individuals in order to prevent their departure and use their potential. Hence, shaping the career of talented workers should be strategic. At the same time, due to their specific characteristics, it is necessary to perceive a career as a unit, which requires the fulfillment of the requirements of talented individuals - related to self-development, personal fulfillment, and interpersonal development. The organization should also bear responsibility for the careers of a talented employee.

For this purpose, the followings are important (De Vos & Dries, 2013):

- allowance for intra-organizational movements;
- offering of multiple career management practices (such as succession planning, coaching, mentoring, rotation, individual development plans, career development information, and more);
- focus on individual achievement and individual responsibility.

The solutions developed in the field of career management, including traditional ones, can be applied to talent management - especially in leadership, which is related to succession planning and leadership development (Conger

& Fulmer, 2003). In addition, career-related observations on, among others, subjective career success or career orientation, or individual issues, can make a valuable contribution to formulate recommendations on how an organization can succeed using specific career management practices for talented individuals.

The solutions presented also create favorable conditions for a high involvement of talents, which enables them to be more closely associated with the organization. Involvement is favored by activity, risk taking, transgression and creativity (Mazurkiewicz & Moczulska, 2013). In addition, it allows the individual self-fulfillment and satisfaction (Glińska-Noweś, 2010). Degradation of a talented individual into the role of a productive factor, that is, offering their contribution to work, without the possibility of its development, self-fulfillment, results in dissatisfaction, frustration, and intellectual inactivity thereby deprives the organization of the benefits of free thinking and creative action (Morawski, 2009).

The modern approach, thus, stresses an active role in shaping the careers of both organizations and individuals. Career continues to be a means of achieving strategic goals of the organization, especially during the ongoing “talent war.” In many cases, careers are determined by the organizational context, which is a matter of organizational concern. This means that issues in literature, career management, and talent management are complementary to one other.

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### **Biographical note**

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# PERSONNEL PROCESS IN A PROJECT – THE FORM AND IMPLEMENTATION PRACTICE

**Katarzyna Piwowar-Sulej<sup>1</sup>**

## **Abstract**

*The literature focused on project-based management is frequently discussing the problems of team management. The activities addressed to project team members can be approached from the perspective process. Personnel process should represent the set of interrelated, coordinated activities contributing to the project goal implementation. The purpose of the article is to provide an answer – based on literature studies and empirical research – to the questions regarding the implementation methods of personnel process stages in a project, the occurring shortcomings, the process integrity, and changes to be made for its improvement.*

**Keywords:** *project, personnel process, project manager.*

## **1. Introduction**

A project represents an action performed to achieve a unique objective, involving many actors (team oriented), carried out according to a plan, which due to its complexity is implemented using special methods (see Kotarbiński, 1970, p. 193). Project-based management refers to applying knowledge, skills, tools, and techniques concerning the activities performed in a project in order to meet or exceed the demands and expectations of stakeholders towards a project (Ward, 2000, p. 168). Moreover, the so-called project-based approach to an organization management is manifested by appointing project teams, establishing the project manager function, and applying tools characteristic in the field of project management. Currently, an increasing number of organizations have been implementing such approach due to the factors listed below (see Bee & Bee, 2000, pp. 1-2):

- Organizations function in a turbulent environment which requires their flexibility and fast reaction to changes.
- The complexity of tasks is continuously increasing along with their implementation time reduction.

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- The pressure on resources is present, imposing their effective usage as well as the connection between direct input resources and output results.
- The qualified personnel expects new professional challenges and working conditions in a creative and flexible environment.

Most people can give the examples of buildings or bridges construction designs. Project-based approach is also popular in IT sector. More often, however, a project results in organizational change. Today, even in the industries traditionally based on operational (reproducible) activities, as the core element of their functioning, projects begin to play an increasingly important role.

In the perspective of the project above universal diversity model, underlying the course of project work implementation does not exist. The subject literature discusses various presentations of a project life cycle (see, e.g., Litke, 1993, p. 25; Trocki, Gruzca & Ogonek, 2003, p. 30). Nevertheless, a project is always carried out by people who make up a project team. According to the Standish Group “qualified resources” are listed among ten areas in which project success factors should be investigated (Turner, 2009, p. 56). In turn, Pinto and Slevin (1988, pp. 69-70) include personnel among the ten factors of project success. The quoted authors refer to the term of personnel known as the activities focused on people such as recruitment, selection, and training to ensure a complete team. The literature in the field of project-based management frequently discusses the problems of team management and the role of a project manager. Meanwhile, the activities addressed to project team members can be approached from the perspective of a process covering personnel needs planning, recruitment and selection of team members, introduction to project work, appraisal, training, remuneration, and relocation. Undoubtedly, personnel process should be made up of interrelated activities designed to accomplish a specific project goal.

Having the above in mind, a goal in the article was defined by answering the following research questions:

- 1) What instruments (methods, modes, techniques) are applied within the framework of activities performed in a personnel process in a project?
- 2) Is the personnel process in a project, in practice, made up of interrelated, consistent activities?
- 3) What are the reasons for shortcomings occurring in a personnel process in a project?
- 4) What changes can be suggested to improve the methods of a personnel process in a project implementation?

In order to carry out the purpose specified above such research methods were applied to literature studies and empirical research conducted in the period 2014-2015

in 100 enterprises, in which project-based management approach was implemented. The research was executed within the framework of the project funded by the National Science Centre (DEC-2013/09/D/HS4/00566).

## **2. Personnel process in a project – its graphic presentation and implementation determinants**

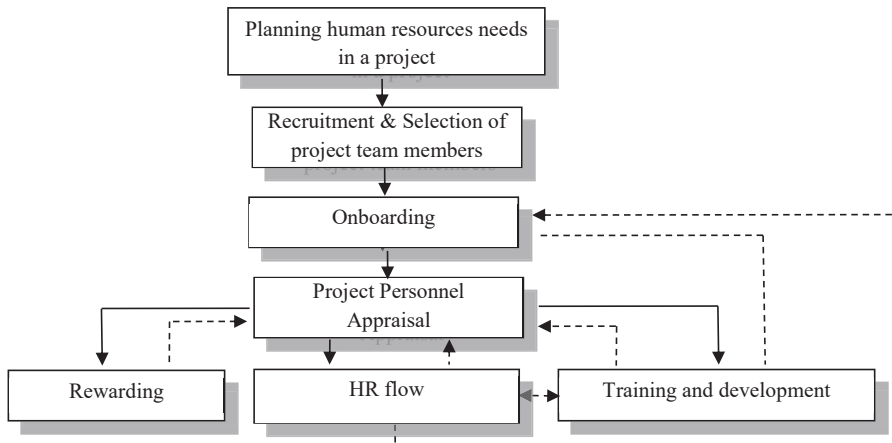
As it has already been set out in the introduction, the literature discussing project-based management is focused on the problem of team management. For example, the publication presents one of the most popular project management methodologies, i.e., “Project Management Body of Knowledge” (Project Management Institute [PMI], 2004, p. 201). It lists the following activities addressed to personnel in a project: planning needs, recruiting team members, team development, and project team management. In Polish subject literature, among the activities related to project team management the problems of team construction (including development), motivation, appraisal and conflict management (Wachowiak, Gregorczyk, Grucza & Ogonek, 2004) are emphasized. Attention is also paid to the role of a project manager and management styles (Bielawa, 2014, pp. 105-108). The area of interest also covers the group process (team development stages by Tuckman) and the determinants of an actual team construction in terms of project specificity (Pearce, Powers & Kozlowski, 2015, pp. 430-435).

Even though – as Sanders and Yang (2016, pp. 201-217) claim – much attention have recently been paid to the assessment of activities related to human resources management (HRM), only few publications cover the problem of approaching HRM from the process perspective. During the past decade, however, an increasing interest in the process oriented approach to HRM has been observed (see Bowen & Ostroff, 2004, pp. 203-221; Nishii, Lepak & Schneider, 2008, pp. 503-545; Katou, Budhwar & Patel, 2014, pp. 527-544). The subject literature uses such terms as “personnel process” or “personnel processes.” The latter refers to the following processes:

- the process of people entering an organization,
- the process of people functioning in an organization,
- the process of people leaving an organization.

In case of a different approach such activities as recruiting workers, adaptation of new employees, their development and leaving an organization are, in turn, treated as the components of one personnel process (more in Marciniak, 2006, pp. 11, 33). The author of the hereby study adopted that the personnel process represents a complex notion made up of smaller sub-processes.

Having in mind the output of HRM discipline, including different – presented in literature HR function scopes – it was fully founded to discuss the activities focused on personnel in a project, which make up a logical sequence and thus create a process (Figure. 1). These activities remain analogical to the ones addressed to employees of permanent units in an enterprise.



**Figure 1.** Personnel process in a project

Personnel process in a project starts with planning human resources needs and finishes with ending up cooperation in a project (relocation outside the project). It is connected with an employee’s life cycle in a project. This process encompasses an ordered set of coordinated and complimentary activities as well as the information exchange and decision-making procedures; it integrates economic and normative rationality. Personnel process should support the implementation of project goals by constructing such team which shall present adequate competencies (knowledge and skills) and motivation indispensable to perform specific tasks in a defined time and in line with the planned budget. Personnel process should be evolutionary, i.e., continuously evolving and adapting by drawing on past experience to refine the effectiveness of activities (Amit & Belcourt, 1999, pp. 174-181). The mistakes made in a personnel process during one project realization can affect people’s behaviors in the subsequent projects.

Considering how the components of personnel process were presented in Figure 1. It should be added that personnel relocation refers to many different activities and the possibility of the undertaking is determined by the type of project and employment a team members form. Such relocation may relate to role changing in the project (evaluated by a team member as “positive” or “negative,” i.e., perceived as a form of promotion or degradation) and transfer

(changed project but the same role, transfer to a different project, reinstatement of an employee to work in permanent enterprise structures, dismissal of a person employed exclusively for the purposes of project implementation). The feedback between personnel process components has been marked by a dashed line. For example, within the framework of personnel selection – and specifically introduced to work – adequate training is organized. One employee transfer to a different project may imply the needs related to a new team member recruitment (filling the vacancy). In turn, relocation, which takes the form of the role change into a more appropriate one, is strictly connected with personnel development. One of the related development methods is assigning more complex or responsible tasks.

The approach presented in figure 1, represents the model one. The result of – formal or informal – appraisal should imply adequate training, remuneration, and relocation (HR flow). However, whether the personnel process in a project covers all the above-listed activities depends on- e.g., the project type. In case of extended and complex projects, it is possible to employ the leading project manager and sub-projects' managers, which opens larger opportunities for getting the managerial role. In general, the chances are higher for changing the role in the course of a long-term project implementation. Beyond any doubt, a project of innovative nature poses a development oriented challenge for a project team member, just like a dynamic project with a large number of unknown factors in the entire implementation process. In case of a non-autonomous project, where enterprise employees are delegated to work on a project and combine work in a project with work in a particular department, it may turn out difficult to constitute the formal periodical appraisals. However, an additional condition should be pointed to at this point, i.e., the relationship between the time of work in the project and the cell line. It should also be emphasized that a project is perceived as a certain form of work organization, subject to legal regulations and internal rules adopted in an enterprise. It primarily refers to labor law provisions, but also employee remuneration procedures followed in an enterprise implementing a project. In this respect, many issues depend on the adopted structural solutions, organization culture followed by a given entity, including how valuable both projects and participation in them remain, what is the position of a project manager, what are the powers and entitlements of the other decision-making bodies, etc.

As far as the decision-makers are concerned the project manager is considered the main project “actor.” However – in the opinion of Shtub, Bard and Globerson (2005, p. 14) – the role of the project manager may start at different points in the life cycle of a project. Some managers are involved from the beginning, helping to select the project and form the team.

Others may begin at a later stage and be asked to execute plans that they did not have a hand in developing. It also refers to the project managers' involvement in the personnel process implementation.

### 3. The methods of personnel process implementation in a project – the results of empirical research

Before the results of conducted research are discussed, it is worth presenting the research process itself. It was adopted, following Sudol (2007, p. 69) that in case of management sciences – as social sciences – the induction scientific methods remain most appropriate. In the empirical studies carried out in the years 2014-2015, within the framework of a larger project funded by the National Science Centre (DEC-2013/09/D/HS4/00566), an ideographic approach was applied based on a purposive sample. In the process of the research sample construction, it was taken into account that the number of organizations using project-based approach is difficult to determine. One of the conditions for including a particular economic unit to a research sample was the occurrence of permanent cells (departments) in its organization structure and interdisciplinary project teams, as well as the positions or functions of a project manager.

The research – based on structured and free-form interviews with project managers, project work executors and HR employees – covered 100 medium-sized and large enterprises. In the studied organizations, the projects implemented were not of incidental nature and were managed based on methodological approach. The relevant studies were preceded by pilot studies in the form of focused interviews carried out with the representatives of the aforementioned groups (more in Piwowar-Sulej, 2016, pp. 101-110). The below table lists the most popular practices identified in the research sample, i.e., present in over 50% of the analyzed organizations.

**Table 1.** The methods of personnel process implementation in a project – the summary of empirical research results

The stage of personnel process in a project	Implementation methods
Planning personnel needs	Planning is based on the assumption that the need regarding personnel will be analogical to the needs in previous, similar projects or a parametric method is applied, i.e., using data from previous projects and their appropriate calculation following the parameters of the current project. Industry catalogs of norms are used at this stage.

<b>The stage of personnel process in a project</b>	<b>Implementation methods</b>
Recruitment and selection of project team members	Recruitment is most frequently carried out based on internal sources. Project managers value the recommendation method the most. An interview and the documentation analysis are used in the selection process.
Introduction to project work/Onboarding	Introduction to work is a pre-planned process.
Appraisal of the project personnel	Both formal and informal appraisal systems are used (informal appraisal remains, however, more popular). An appraisal is most often done in the course of an interview, whereas milestones define the appraisal moment. The appraisal (primarily the informal one) is the background for the decisions about remuneration, training, and relocation.
Remuneration	Team members' remuneration is included in the project budget. Team budget for bonuses is usually divided between team members following the project completion. In case of long-term projects, bonuses are paid in the form of advance payments after achieving the subsequent milestones. There is, however, no relationship between the project phase and the amount of such bonus fraction.
Training and development	The participation in the project itself is the source of potential human development. Training indispensable for successful project realization are organized.
HR flow/Relocation of team members	In the course of a large project implementation, the role of a team member can be subject to changes. Formal "career paths" do not exist in case of projects.

Having analyzed the information presented in Table 1 and referring to the second research question it can be concluded that the personnel process in a project consists of interrelated stages. It is particularly visible in the practice of referring to an employee's appraisal as the basis for making other personnel oriented decisions. It should, however, be emphasized that the assessments made are predominantly of informal nature; thus their criteria are not written down and are not clearly communicated to employees. Work executors in projects also admitted that they do not know the principles underlying remuneration for work in a project. The formal rules for project team members are not developed either. The interviews carried out with the candidates for project team members were not evaluated highly by the executors of work. Thus, certain shortcomings are present in the methods of personnel process implementation. Among them, the absence of the relationship between the bonus level and the project stage can also be included.

Moreover, some practices presented in Table 1 occur in slightly more than 50% of the analyzed organizations. They refer not only to the methods of personnel process implementation but also to an active approach of a project manager. As far as the role of a project manager is concerned, in terms of

personnel process implementation, it should be stated that project managers do not always participate in personnel process planning for the project needs. Furthermore, they rarely have any influence on the composition of the team they manage. They select personnel for work in a project in 58% of the analyzed organizations. It often happens that line managers assign people to be temporarily involved in project work. A project manager, in turn, deals with introducing personnel to project work. In the course of project implementation, it is mainly the manager who does the coaching of the team members. The project manager also applies to the employer, in 60% of organizations, for granting monetary or in-kind gratification for the participation in a project. In other organizations project managers do appraise subordinate to the work executors, however, the appraisals – as the free-form interviews confirm – are usually passed on to line managers. The latter – in the situation when a project manager does not have any bonus budget at the disposal of the team members – apply for granting their subordinates with extra gratifications for project participation.

In 1988 Drucker's article was published and revealed that in twenty years a typical large company should have half of the existing management levels and the particular tasks will be performed by experts focused on specific projects (Harvard Business Review, 2006, p. 8). The importance of projects is growing, which does not necessarily correspond to the rank of a project manager in the studied organizations. Project managers admitted that in their opinion some activities in the personnel process are performed needlessly and "somewhat" for the benefit of different cell lines. Frequently the division of entitlements is neither clearly defined nor known. The justification for such situation is missing. Other activities – traditionally assigned to individuals at managerial positions – are not performed at all. This – low – position of a project manager, against a line manager, remains – in the opinion of these respondents – an obstacle in an effective project implementation. Including various decision-makers in personnel issues has an impact on the lack of personnel process consistency in a project.

Attempting to answer the question about, the reasons for shortcomings in a personnel process it is impossible to remain focused exclusively on the limited role of a project manager. The earlier discussion points to the absence of professionalism in the selection and application of particular methods for the analysis process implementation. Therefore, first, an appraisal should be made, and following the project manager's competencies should be developed. It refers to such managerial skills as conducting an interview, managing communication in a team, and work assessment. It is worth emphasizing at this point that the conducted research revealed only marginal participation of HR staff in the development and implementation of particular personnel process stages in a project.



#### **4. The recommended changes of personnel process implementation in a project**

When a business process is not helping an organization reach a goal within the timeline or with the resources at hand, there are some strategies to execute for improvements. In accordance with the principles of business processes, the optimization of duplicating activities performed by a project manager and a line manager, can be eliminated. Moreover, the process should also be standardized, i.e., the practices carried out at its every stage should be replicated. In the previous part of the study, the need for developing project manager's managerial competencies was pointed out, which should remain the responsibility of HR department in an organization. More suggestions for changes in the personnel process implementation in a project are presented below.

One of the most neglected decision-making areas of a project manager is the stage of other team members selection. The shortcomings occurring at this stage are, undoubtedly, reflected in the subsequent phase of personnel process. If a person who follows a certain routine, prefers working in his/her cell line, in the team of well-known colleagues, is assigned to work on a project, success in involving such an individual in project work is more difficult to achieve. The situation is even more complicated when a line manager is the one who performs an employee's appraisal and decides about a bonus based on the results achieved in a cell line.

As it has already been pointed out, in case of long-term projects, bonuses are paid as advance payments following the achievement of subsequent milestones. Simultaneously, there is no connection between the project phase and the amount of the bonus fraction. In such situation, the more advanced a project phase is, the higher the amount of bonus fraction should be. This approach should have a positive impact on maintaining the team members' motivation level.

In case of long-term projects, it is possible to develop a "career" path, i.e., the map of possibilities for changing the role in a project. For example, in a complex, innovative IT project the role change can be done analogically to the position change within IT department, e.g., from a programmer through IT architect to an analyst. Apart from functional roles, the concept of team roles by Belbin (2008) should also be taken into account. A person with the assigned role of an "executor," but with the potential of a "connector" should rather be responsible for tasks related to contacts with external stakeholders of a project.

If granting more extensive decision-making powers to project managers is not possible, which can result from the characteristics of an enterprise organizational culture, what remains is to develop appropriate relations

between a project manager and a line manager. In the literature, on project-based management, the functional managers are referred to as “resource owners.” They play important roles as they produce short- and long-range staffing plans, hire, fire and develop the staff. At the same time, they are focused on their “kingdom,” i.e., the tasks implemented within the given function (Project Management Institute, 2001, pp. 24-25). The project managers’ primary task is to convince the line manager effectively to perform for the benefit of projects. What can a project manager do to earn the support of functional managers? He/she should educate them.

However, it does not mean to deliver “stiff” lectures on project management methodology, but to the joint perspective on the implementation of organizational goals along with partnership construction. Such partnership should, in fact, be developed between three entities, i.e., the line manager, the project manager, and the HR department.

## **5. Conclusions**

The purpose of the article was to present and evaluate personnel process in a project from the theoretical and practical perspective. The analysis was conducted covering methods used in the implementation of activities carried out in the practice of enterprises which apply project-based management. The role of a project manager was discussed in an institutional area.

Based on the empirical research results it was shown that there are certain shortcomings regarding personnel process in a project. It refers, e.g., to the lack of professionalism at the stage of team members selection and the absence of formalization at some stages of the process. Even though the activities undertaken in relation to team members are interrelated, still the personnel process lacks internal consistency. It goes along with an unclear division of powers between a project manager and a line manager.

The postulation part of the study recommends changes aimed at personnel process improvement in the analyzed organizations. They cover training for project managers in management skills, the implementation of substantive solutions in terms of project personnel selection, and the related rewarding or relocation. To avoid organizational chaos, the decision-making bodies, within the personnel process should be clearly defined and communicated, including their powers in the decision-making process. Partnership type of relationships should be developed in an organization between project managers and “resource owners” (line managers) as well as HR specialists.

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# REVISING ENTREPRENEURIAL ORIENTATION CONSTRUCT IN A SOCIAL ENTERPRISE

**Marzena Starnawska<sup>1</sup>**

## **Abstract**

*Entrepreneurial behavior and entrepreneurial orientation (EO) have received significant scholarly attention in entrepreneurship and management research, but mainly in the commercial context. However, some attempts discussing such behavior and EO among non-profit organizations, but limited in the social enterprise context. The literature argues that EO is higher in such contexts (Zahra, Gedajlovic, Neubaum & Shulman, 2009; Lumpkin, Moss, Grass, Kato & Amezcua, 2013). Also, some new EO dimensions are proposed, at the same time existing EO dimensions are redefined. Based on this limited literature, the author undertakes an overview of existing work on EO dimensions and analyses how EO can be reconstructed and redefined in the social enterprise context. New, additional EO dimensions are compiled and discussed: cooperation capacity, agility, and persistence. In the light of anecdotal, empirical efforts on EO construct and relationship to performance among social enterprises, it seems that EO needs more revision and theoretical discussion, combined with inductive and qualitative studies. This change can provide more insights into the nature of individual dimensions and their relevance for social and business performance of social enterprises. It also poses the question whether EO dimensions should go beyond the split between what is commercial and social in social enterprises, and encompass both or whether focus separately on each of the two.*

**Keywords:** *entrepreneurial orientation, entrepreneurial behavior, social entrepreneurship, social enterprise.*

## **1. Introduction**

The social enterprise activities, manifested in a variety of organizational forms, have spanned the socio-economic landscape, and are claimed to resemble a social enterprise ZOO (Young, Searing & Brewer, 2016). These range from social movements, grass root activities to professional enterprises, as well as corporate responses to the markets at the bottom of the pyramid. There is, indeed, a plethora of different organizations

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across cultures and contexts, set either within a particular sector – public sector, third sector, private sector, or, most often on the crossing point between these sectors.

These models drive towards both business and social performance. However, in the entrepreneurship field, the emphasis has been put on the entrepreneurial efforts mainly in commercial context, on individual or organizational level. In social entrepreneurship, multiple actors and organizations perform entrepreneurial functions, and there is a strong focus on incorporating the involvement and interests of different stakeholders in social entrepreneurship process (Starnawska, 2017). This emphasis can potentially make the evaluation of entrepreneurial behavior more complex. As social enterprises operate in ambiguous environments and relate to a variety of different stakeholders, with different expectations, under different sectors and their institutional logics, their entrepreneurial processes together with antecedents and outcomes are diverse (Morris, Coombes, Schindehutte & Allen, 2011; Lurtz & Kreutzer, 2016, p. 4). Customers and beneficiaries do not pay for the service delivery; therefore, the way an organization gathers resources is a process detached from provision of service to beneficiaries. Such organizations are pluralistic, follow multiple objective and the power within them is diffused (Denis, Langley & Rouleau, 2007; Lurtz & Kreutzer, 2016, p. 4). The increasing social demands, competition for human and financial resources, drive social enterprises to be more entrepreneurial (Lurtz & Kreutzer, 2014, p. 3). This push calls for the review of existing entrepreneurial behavior construct such as EO. So far, existing conceptual and empirical efforts have employed EO construct in its classic form, in the context of commercial entrepreneurship, among for-profit organizations. The scholarly output on EO in social context has been limited to non-profit settings (Coombes, Morris, Allen & Webb, 2011; Lurtz & Kreutzer, 2016; Morris et al., 2007; Morris, Webb & Franklin, 2011; Pearce, Fritz & Davis, 2010). Therefore, relevant for advancement of EO dimensions is required and the aim of this paper is to explore the entrepreneurial orientation construct in the social context. We ask how entrepreneurial behavior can be analyzed and we do so by making attempt at translating EO construct into a social enterprise context. At the same time, we are aware that the discussion on EO construct should be, in further conceptual and empirical efforts, extended to different social enterprises in different sectors, fields of activity and markets.

The paper is structured as follows. In the first part, we overview the EO construct and related dimensions in the light of existing literature. Further on we discuss the construct in the social entrepreneurship context. At the end of the paper we draw conclusions, and propose suggestions for future research.

## 2. Entrepreneurial orientation in entrepreneurship field

Entrepreneurship research has not been growing dynamically and steadily. There is limited agreement what is the core of entrepreneurship due to the diversity of entrepreneurship, highlighted by different authors (see more Wasilczuk, 2017). A major stream of research has acknowledged entrepreneurial orientation (EO), as one of the key measurements and concepts for entrepreneurial behavior. EO has its roots associated with a strategic orientation of an enterprise. EO dimensions were developed on the basis of strategy making and entrepreneurship research (Rauch, Wiklund, Lumpkin & Freese, 2009). They identify more than 100 studies of EO, what proves acceptance of the concept and its relevance for research progress. Despite variation in results on how EO affects business performance (Rauch et al 2009), many studies show that entrepreneurial orientation is strongly linked to business performance (e.g., Covin & Slevin, 1986; Wiklund & Shepherd, 2005; Dyduch 2008) or try to verify this relationship. Entrepreneurial orientation, as a category, is based and developed on primary Miller's (1983) work on 'entrepreneurial firm' and is characterized by product/market innovation; undertaking risky ventures; acting proactively in introducing innovation. Covin and Slevin (1989) put forward these three EO dimensions such as risk taking, proactiveness, innovativeness, that have been complemented by Lumpkin and Dess (1996) who added another two: autonomy and competitive aggressiveness. All these dimensions manifest the internal logics and mindset dominant within an organization. The former three are the most recognized and empirically tested EO dimensions. **Innovativeness** shows the disposition of an organization to get engaged in new ideas, experimenting, creative processes, which can result in new solutions, services, or products. It displays the interest in moving beyond the current state of matters (Lumpkin & Dess, 1996). Another dimension, **proactiveness**, refers to prospective, forward looking approach to introducing new products or services. As a dimension of EO, it is relevant in reference to competitors. Here organizational actions are aimed to move ahead of the competition and are focused on anticipation of future demand (Rauch et al., 2009). Next dimension of EO is **risk taking**, which incurs borrowing money, committing significant resource amounts into ventures with uncertain outcomes. Another two dimensions, which Lumpkin and Dess (1996) added to EO construct are competitive aggressiveness and tendency toward autonomous action. **Competitive aggressiveness** shows enterprise propensity to direct and aggressive actions towards competition, how they react to competitors' actions. This aggressiveness requires unconventional behaviors, nonconforming to the existing norms that can surprise competitors, and is a reaction to other party's action. Rauch et al. (2009) consider aggressiveness as a manifestation of proactiveness. Whereas **autonomy** – is the willingness and ability of enterprise

team or leader to act independently, without conforming to external pressures, with interest of the actors involved in learning about the results of their undertaking. For some researchers, autonomy is an important determinant of entrepreneurial climate that is why it should be treated as an antecedent rather than dimension of EO (Karpacz, 2016; Wójcik- Karpacz, 2016; Lumpkin et al., 2009). We do not discuss these in more depth, as the social entrepreneurship literature has remained silent about these two dimensions.

### **3. Entrepreneurial orientation in social enterprise context**

The scholarly contribution to understanding entrepreneurial behavior and entrepreneurial orientation puts forward two ways of looking at what is ‘entrepreneurial’ in the social entrepreneurship, particularly in social enterprise context. The first approach is derived from EMES network research approach, which has put forward nine ideal type of social enterprise criteria in the Weberian sense, divided into two groups (social, economic-entrepreneurial) (Defourny & Nyssens, 2008). At the later stages of EMES research efforts, the criteria are grouped into economic, social, governance dimensions (see more: Defourny & Nyssens, 2012). EMES provides these for comparative purposes, across different institutional contexts. The first EMES research efforts have been set in the European context, where most of the social enterprise initiatives have taken place in the third sector (neither private nor public), among non-profit organizations (Defourny, 2014, p. 18). Actually, in its original version, Defourny and Nyssens (2008) speak about ‘economic and entrepreneurial’ dimension and later describe them solely as ‘economic.’ The social dimensions refer to social enterprise’s explicit aim to benefit the community. The social enterprise is an initiative launched by a group of citizens and has a participatory nature, which means involvement of various parties affected by the activity but its decision making power is not based on capital ownership (see more: Defourny & Nyssens, 2012). Among these, they propose four criteria. The first is ‘*continuous activity such as producing goods and/or providing services*’ that serves as one of the main rationales for the existence of the social enterprise. Here, an enterprise does solely perform advocacy role or engages in redistribution of financial flows (in associations and foundations respectively), but gets involved in manufacturing or service provision on a regular basis. The next one is ‘*high degree of autonomy*’ that reflects autonomous project undertaken independently by particular parties, which are not directly or indirectly managed by other organizations. The third one refers to ‘*minimum amount of paid work*’ to show the difference from non-profit organizations which mainly rely on volunteer work, intake of donations and other gifts. The last thing includes ‘*significant level of*



*economic risk*’ reflected in the efforts of individuals – workers or/and members, securing resources and taking risks incumbent in the use of these resources. The overview of these dimensions, provides more understanding of what enterprising and entrepreneurial behavior looks like in the third sector, non-profit organizations, in social enterprises in particular. While embarking on ‘enterprising,’ these organizations start using market tools, business practices and earn revenues to pursue their social aims. And this is how the ‘entrepreneurial’ behavior is manifested in these organizations. Although the basis of the criteria above was not the result of the review or EO construct, EMES approach gives more context and understanding to social enterprises in the European context.

While undertaking the discussion on the EO in the social enterprise context, the following questions emerge:

- whether new relevant dimensions can be added and old irrelevant ones deleted;
- how existing EO dimensions can be revised;
- whether the performance of social enterprises can be revised;
- and whether antecedents of EO can be revised.

Also, important theoretical questions arise on how relevant EO in social enterprise can be developed. As can be seen in the following section, the literature on entrepreneurial orientation in social entrepreneurship has been limited to ‘non-profit’ organizations’ context (Morris et al., 2007; Morris et al., 2011; Lurtz & Kreutzer, 2016; Kusa 2016) or ‘social’ (Lumpkin et al., 2013) contexts. Entrepreneurial orientation in the context of social enterprise and social entrepreneurship has been mainly discussed in non-profit context, which implies a lack of research on social enterprise that combines the elements of commercial and social aims and logics. In their work on non-profit organizations, Morris et al. (2011) analyze entrepreneurial orientation, based on propositions of Covin and Slevin (1989) who employed **innovativeness**, **proactiveness**, and **risk taking** in their scales. These authors posit that these three salient dimensions are much more complex in the social context than commercial context. There are also claims made that social mission enhances EO of organizations (Zahra et al., 2009; Lumpkin et al., 2013).

So far, the scant literature has tried to revise the existing EO construct in two ways: either to extend, revise each of EO dimensions and adapt it to social context or to change the number of existing EO dimensions. The evaluation of social enterprise EO may also require the employment of both: EO classic construct with its dimensions and social entrepreneurial orientation construct with its own, special dimensions. Social enterprises, with better or worse outcomes and performance, serve a dual mission and pursue multiple goals: economic and social in their activity, yet it is arguable whether such EO

construct should be universal for both social and commercial enterprises or whether some specific differences should exist.

**Innovativeness** is a necessary entrepreneurial dimension, which can refer to both social and economic aspects of social enterprise. Lurtz and Krutzer (2016) discuss innovativeness in reference to new methods of funding and new methods of value creation. Similarly, for Morris et al. (2011) social enterprises display their innovativeness for the purpose of securing financial stability and increasing social impact. In an economic sense, many different innovations can be made to increase revenues, reduce organizational costs, and find new ways of financing an enterprise (Syrjä, Puumalainen, Sjorge, Soininen & Durst, 2011). Whereas in the social context, innovations do not only encompass processes and operations but also changes in the mission (Morris et al., 2011) of social enterprises. These authors propose to put forward a separate sub-dimension of innovativeness that leads to financial performance and social mission achievement at the same time. The innovativeness as EO dimension is somehow imprinted in organizational culture as intrapreneurship. **Proactivity**, in line with innovativeness, refers to future oriented efforts in creating solutions for social problems (Lumpkin, 2011). Proactive manner refers to both: type of innovation and towards whom this is directed (Morris et al., 2011). In pursue innovations, proactivity may be displayed through social innovation generation, in finding new means of financing and ways to sustain financial performance. But more importantly, other organizations that occupy the same market and stakeholders come to the forefront in this dimension. Proactiveness in social enterprises also means the efforts in meeting and understanding expectations of different stakeholders, their needs, as they constitute an important element of SE environment (Lumpkin, 2011). Within such a diverse group with diverse aims and expectations, significant entrepreneurial effort needs to be made to listen to, and meet these stakeholders' expectations. The anticipation of these expectations resembles the innovations and solutions offered by social enterprises. It seems that proactivity understood in this way, is more important for the driving rationale of social entrepreneurship than being on the lookout to be ahead of competitors. Lurtz and Kreutzer (2016) distinguish upstream (provision of resources) and downstream (product or service delivery) processes in EO dimensions analysis, as potential areas for distinction. Proactiveness in service delivery is different than proactiveness in search for financing, and for resources. They find that the proactiveness is limited in downstream processes and not in line with the logic of service delivery, whereas marketing processes and resource finding require significant proactiveness. As for the **risk taking**, as an EO dimension, in case of social entrepreneurship, the literature distinguishes two kinds of risks: financial and non-financial (non-pecuniary) risk (Balan-Vnuk

& Chalmers, 2012). In case of the former, it means the potential financial loss, whereas, in the event of latter, it is the risk of potential loss in achieving social impact (Morris et al., 2011, p. 960). The reduced ability to achieve social aim can result, for example, from too much emphasis placed on income generation, where business performance rationale may preclude or reduce beneficiaries' possibility to receiving sufficient amount or level of support. Also, when the scale of a social enterprise is growing to make an impact, it may distract social enterprise from its core mission. The financial risk faced by SEs determines their survival (Morris et al., 2011). Behind this risk, there is not much of equity financing. This risk can be caused by the extensively growing social impact not supported by parallel financing. Another type of risk refers loss in stakeholder support, because of loss of trust and reputation. The risk of reputation loss is in line with the findings of a single exploratory case study by Lurtz and Kreutzer (2016). Also, Constanzo et al. (2014) make a point that social enterprises face significant risks regarding the 'authenticity' of their social purpose while making efforts to balance multiple expectations of different stakeholders. Risk bearing commonly means investing large financial assets into unknown ventures. However, these assets do not have to be only financial ones; they also include human resources and time. These resources can also be borrowed (debt capital), or acquired from the environment (Lurtz & Kreutzer, 2016, p.3). Also, resources acquired through relationships with different stakeholders, raise different expectations about risk taking. Many of resources they offer such as donations, or volunteer work are not welcome to be put at risk (Lumpkin, 2011). It is because those who offer their resources for free are more likely to be on the watch for how their support is utilized and managed, if it is wasted or not, and how it is appreciated or acknowledged. Similarly, Balan-Vnuk and Chalmers (2012) propose multidimensionality of risk in social context. They go beyond financial risk and identify a number of non-pecuniary risks such as reputation, brand image, relationships, leadership, key people in the organization, time and effort devoted to social enterprise. Tactics involved in this risk mitigation aim at maintaining legitimacy and positive relationships with stakeholders. This aim, in line with risk taking sub-dimension, is proposed by Morris et al. (2011) on the role of constituencies to support the social enterprise through resource provision, knowledge, access to networks, support, where trust and reputation play a key role. Some qualitative evidence provided by Syrja and authors (2011) shows that actors involved in social entrepreneurship are willing to undertake personal financial risk. With this importance in social entrepreneurship, there is a distributed variety of constituencies and stakeholders, where the leaders of these organizations devote their assets for these ventures. The same evidence shows risk-aversions when it comes to any action that may reduce the social impact. In their in-

depth single case study, Lurtz and Kreutzer (2016) propose ‘risk outsourcing’ together with ‘collaboration’ as a substitute for ‘risk taking.’ They find that the tolerance for social risk is quite high, as people are used to working within developmental areas and contexts. Social enterprises are financial risk averse, regarding the developmental, relief oriented organization’s mission. What explains this risk aversion is the volunteer nature of involvement of board management, which does not display entrepreneurial behavior and demonstrate fear of venturing into uncertain areas. Also, the donors as stakeholders, having entrusted their money into the organization, are averse to hear about the waste of their donations. For Lurtz and Kreutzer (2016), seeking alternative financing common for SEs works as an example of outsourcing financial risk. Overall, the key challenge in social risk is related to risk that an organization will fail to meet its social mission.

The following three dimensions of entrepreneurial orientation construct: **cooperation**, **persistence**, and **agility** have been additionally developed, as a result of qualitative inquiry and conceptual discussions. The entrepreneurship literature on EO does not recognize cooperation capacity as one of the dimensions. Given the complexity and diversity of social enterprises, and the necessity to work with various stakeholders, the limited empirical evidence on EO recognizes the importance of collaboration. The question is to what extent it can be considered as a separate dimension. The role of social relations and strategic collaborative agreements have been recognized as important antecedents of entrepreneurial behavior and entrepreneurial orientation (Yang & Dess, 2007) and social entrepreneurship. The understanding of local problems and their context is required at different stages of the entrepreneurial process. It is different when social movement, informal, initiatives are started. And it is different at later stages, when an organization needs resources and legitimacy in the environment, what has been partly highlighted in the discussion on reputational risk. The resources are delivered on the informal and formal basis, through volunteer, private, individual support or organizational support, and through a variety of ways of resource provision. Similarly, Lurtz and Kreutzer (2016) offer ‘collaboration’ dimension as the ability to engage in ‘collaborative behavior,’ for the purpose of resource and knowledge transfer from other enterprises, foundations, and organizations.

An additional dimension, ‘**persistence**’ is reported in some evidence based on qualitative research (Syrjä et al., 2011; Puulmalainen, 2014) on social entrepreneurship. These authors claim that social entrepreneurs display persistence in adhering to the course of action in the face of arising difficulties and risks, which is strongly displayed in adverse circumstances. The social mission can be a strengthening motivational factor in entrepreneurial persistence. It might be due to the strongly desired social impact and also

related need of organizational and financial sustainability of the venture. Also, the dedication of personal assets such as time and other resources can increase this persistence and commitment. Persistence can be strengthened by the fact that there are many social problems and issues at stake, including the fate of organizations' beneficiaries, which reflects social risks embedded in such enterprises.

There is another dimension put forward by Fricke (2016) who offers 'agility' dimension of EO construct while referring to Bernardes and Hanna's (2009) concept of agility. Agility is different from flexibility. Flexibility means the capacity to be flexible in the environment with pre-established parameters, expected changes, potential actions to be undertaken; whereas agility displays capacity to act in response to both expected and unexpected changes. This example shows how organizations may react to the capricious and complex environment because of the constant change. Although agility displays reactive action, it is important for social enterprise sustainability. Agility denotes: '*Ability to quickly react to a stimulus and reconfigure quickly and skillfully*' (Fricke, 2014, p.66). He emphasizes that this dimension is incorporated into the discussion on EO with regards to the nature of the organizational environment. For example, it might be different in dynamically changing environments, especially dynamic market changes, where the pursuit of opportunities is harsh, and competitive forces strong.

#### **4. Conclusions**

The overview provided in this paper shows that inclusion of social mission in entrepreneurship setting can impact entrepreneurial orientation and requires relevant revision of the EO construct. Not only this generates changes in particular EO dimensions but also offers new EO dimensions that can be useful in social entrepreneurship research. The literature on EO in social entrepreneurship context does not discuss neither the competitive aggressiveness nor the autonomy, as separate dimensions. There is no doubt that some inductive, qualitative research approaches are necessary (George & Marino, 2011; Miller, 2011) to explore new EO dimensions, revise existing ones, but also to analyze how these revised dimensions impact upon social and business performance.

The need to study social enterprises leads to some suggestions on how EO dimensions could be revised. These organizations undertake different risks related to uncertainty and expected returns. These, in turn, refer to economic and organizational sustainability. There is also an additional, interesting dimension of risk related to the fate of social enterprise beneficiaries which depends on enterprise efficiency and sustainability. Also, we propose that

social enterprises are particularly susceptible to political risk, where political actors make decisions about resource access and provision of assets, but may not welcome the advocacy and lobbying efforts of social enterprises. The third type of risk that is put forward is reputation loss that can impact authenticity and sustainability of the social enterprise. In the area of innovativeness and proactivity, the literature proposes that social enterprises display efforts in replicating existing solutions to social problems, solutions they have delivered themselves or solutions offered by others. These solutions are contradictory to classic approach to competitiveness and innovativeness, where innovative attitudes and efforts need to lead to novel solutions, ahead of the competition. They also show increased innovativeness and proactivity in changing the institutional setting. Some other proposals of an additional dimension such as cooperation capacity are analyzed in more in-depth when compared with existing work in this respect. Social enterprises display not only organizational interest in establishing collaborative relationships with other parties but also these relationships and partnerships need to be of high relevance for the operation and existence of social enterprises.

The key limitation of this paper is that the social enterprise and social entrepreneurship context has not been tested or modified as a result of empirical research. Also, there are many models of social enterprise, tackling different social problems and challenges, involving their beneficiaries and target groups in various ways. Therefore, one of the key areas for further studies of EO in social entrepreneurship context is to go deeper into these models, like in the work of Starnawska (2017) in her study on work and social integration enterprises in Poland. Entrepreneurial orientation could also be revised in reference to two contexts: start-up social ventures and existing social entrepreneurship organizations. This is in line with claims that innovativeness, proactiveness, and risk taking reflect entrepreneurial behavior (Geogre & Marino, 2011; Lurtz & Kreutzer 2016); whereas other dimensions (competitive aggressiveness, autonomy) are adequate for initial phases of the entrepreneurial process such as start-up.

While this discussion is not focused on exploring the concept of social enterprise performance, future research needs to be made in this direction to link EO dimensions with the relative performance measures. However, the performance in social entrepreneurship context is a complex concept, and it needs to be developed. Scholarly research shows varying approaches on the social entrepreneurship outcomes and impact, so similarly it can be challenging to agree on performance measures. The task can become easier while social enterprises studied are limited to one organizational field or similar area of activity like work and social integration of the disadvantaged groups. For improving the revision of EO in social context, other authors (Morris

et al., 2011) discuss the time reference for the construct. Innovativeness dimension in EO is analyzed within the period of last five years of enterprise activity. These authors challenge appropriateness of the time frame in this dimension with regards to social impact. Also, they recall the need for more universal and standardized measures in entrepreneurship research, suggesting the standardized score for both contexts: commercial and social one, for comparison of for-profit and non-profit sectors.

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# EMPLOYEE DIRECT PARTICIPATION IN ORGANIZATIONAL CHANGE PROCESS – PILOT STUDY REPORT

*Katarzyna Szelałowska-Rudzka*<sup>2</sup>

## **Abstract**

*Organizational changes are the most sustained and inseparable elements of contemporary organizations. They produce positive results when all employees are engaged. Employee direct participation is one of the most effective ways to involve members of the organization in changes. The author has developed a model of employee participation in a cycle of the organizational change process. Its empirical verification and presentation of the results of the study is the aim of this paper. The research was conducted by means of a direct questionnaire and involved 197 respondents from the organizations located in Pomeranian Voivodeship.*

**Keywords:** *employee direct participation, organizational change, organizational change process cycle, people's resistance towards change.*

## **1. Introduction**

Change is a special feature of the modern economy. It results from the changeability of the environment, rapid technical and technological progress, growing competition and increasing demands of customers (Spodarczyk, 2016). Organizations, just as quickly and effectively have to face these changes (Studzeniecki, 2016), implementing organizational changes. All employees of the organizational hierarchy (Strykowska, 2010) should be included in the change process running smoothly. Their participation will cause them to become co-authors of change, the allies; they will display proper attitudes and behaviors towards it (cooperation instead of resistance), which will contribute to the effectiveness of the whole process. Developing teamwork, effective communication (Chandani, Mehta, Mall & Khokhar, 2016; Czerska, 1996), motivating to change (Czerska, 1996), choosing the right management style, are some of the ways to build social support for change. Employee direct participation proves particularly effective (Czerska, 1996; Zarębska, 2002;

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Hodgkinson, 1999; Moczulska, 2011; Mowbray, Wilkinson & Tse, 2015; Strykowska, 2010; Ignys, 2014; Pawlak, 2015). Employees involved in the organizational change process - from the first to the last stage - identify with the change, understand the reasons for it, accept the solutions developed, and engage in their implementation as they have been involved in decision-making. Thus, they gain the ability to influence their work situation, sense of objectivity and satisfaction (Pacheco & Webber, 2016), to influence and to be responsible for different areas and levels of organization functioning (Cierniak-Emerych, 2012; Chandani et al., 2016; Pacheco & Webber, 2016). Their reactions to change tend towards acceptance and commitment rather than resistance to change. The aim of the article is empirical verification of the author's model of employee participation in the change process cycle and presentation of the results of the study. The article consists of 4 parts: introduction, results, as well as chapters devoted to organizational change and direct employee participation, and research methodology and results.

## **2. Organizational changes and employee direct participation**

Organizational change is „a process of modifying existing solutions to create another, more effective, organizational model” (Cabała, 2015, p. 134). It allows the adaptation to changes in the environment (meta-cause of organizational changes). Organizational change refers to the different areas of the organization's functioning (e.g., engineering and technology, information system, distribution and customer service, structures and processes leading to improving the mission, goals and tasks accomplishment) (Znańska-Kozłowska, 2011). Different types of organizational change may be distinguished. Based on various models and methods, it can be designed and implemented (Czermiński, Czerska, Nogalski, Rutka & Apanowicz, 2001; Sobka, 2014). However, every organizational change involves applying about 10% of the technique and 90% of psychology and sociology, which points to man – the designer and participant of change – as the main determinant of their efficiency (Czerska, 1996). The success of the whole undertaking depends on the involvement of the employees in the process, their reactions to the changes taking place. Therefore, attitudes and behaviors of members of the organization towards change (from co-operation through indifference to resistance) are crucial for their progress. The least desirable and the most dangerous, for process effectiveness, is resistance to change. According to L. Clarke (1997), it comes from the fact that change is perceived as something that is done outside of employees rather than with them. That is why it is so important to involve employees in the decision-making process for planning

and implementing the change, and to make employees co-authors of the changes. This action brings long-term positive results (Ignyś, 2014).

Not only managers (of different levels) can be the designers of change. Participatory model of the change process assumes that the initiators can also be regular employees, equipped with knowledge, skills, and motivation to change (Koźmiński & Piotrowski, 2013; Sobka, 2014). Participatory changes (bottom-up) are of particular importance for organizations, both for social reasons and for the ability of use them to optimize and improve the employees' knowledge organization and their external (e.g., the offer of the competition, supplier relationships) and internal processes knowledge (e.g., customer service and knowledge of their requirements, knowledge of the sphere of production, links between positions and organizational units from the perspective of the realization of mission, objectives and tasks of the organization) (Grobela & Marciszewska, 2016b; Westhuizen, Pacheco & Webber, 2012; Ignyś, 2014, pp. 31-34).

Employee direct participation in the organizational change process provides the following benefits (Czerska, 1996):

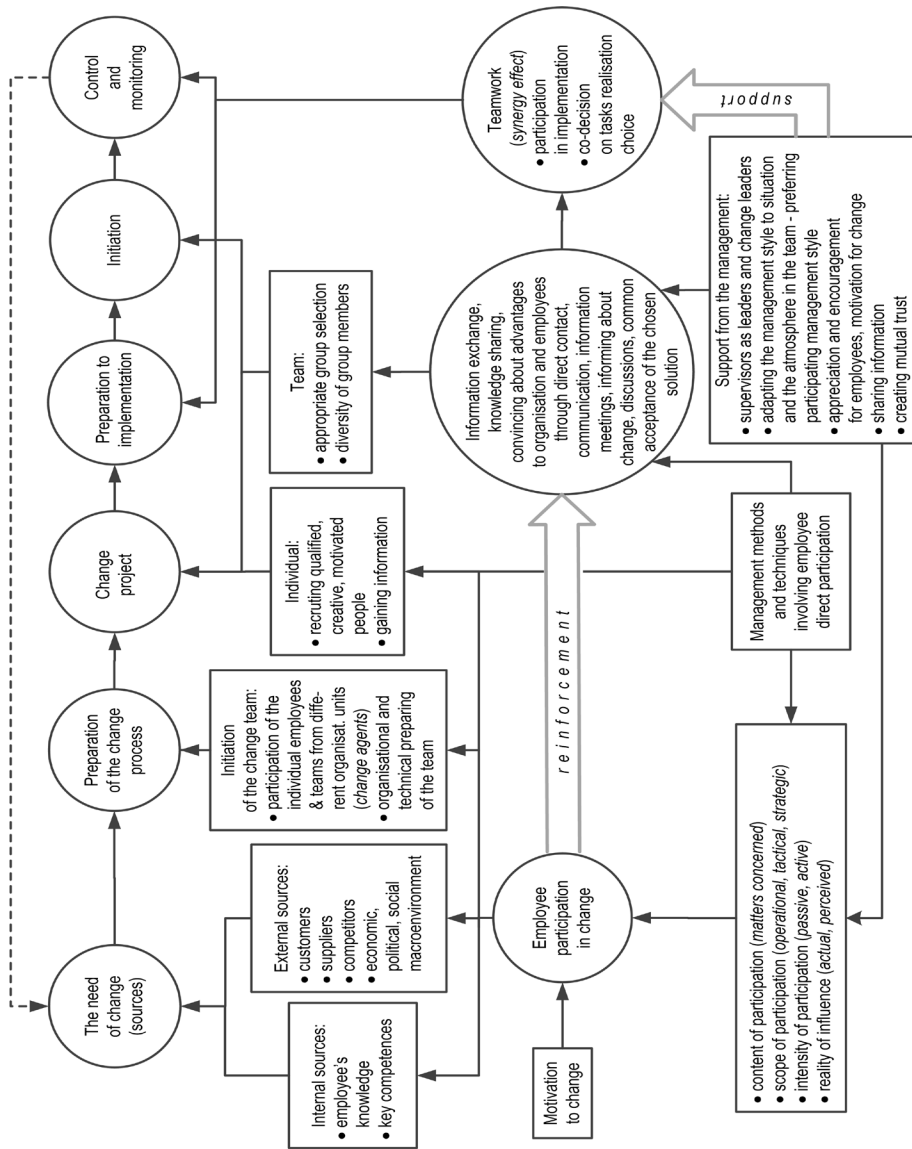
- it helps to understand the change, its essence, causes and expected effects better;
- it helps managers and employees dispose of existing beliefs, stereotypes and cultural norms that hinder change, and helps building and increasing mutual trust between superiors and subordinates;
- it improves and helps to rationalize the whole process of change;
- it engages people in the implementation of decisions they make;
- it helps employees to develop their capabilities and broaden their perspective on the organization;
- it helps employees to accept change faster, and managers to reduce control;
- it increases social control over change.

It also allows the use of employee creativity, their knowledge, skills and motivation to propose innovative solutions that improve the functioning of the organization (Stankiewicz & Moczulska, 2004), and increases the sense of subordinates' responsibility for the success of the organization (Ignyś, 2014).

Employee direct participation is their collective and individual involvement in the decision-making process about the company's performance at various levels of its organizational hierarchy, and employees as participants and producers of processes, principles, and conditions of their functioning in the organization. Its form can be group or individual, supported by a group or individual management techniques and methods. The first ones (group) include problem solving teams, autonomous teams, quality circles, goal management. The latter ones (individual) include, for example, work enrichment and design, flexible working time, remote work, cafeteria

remuneration systems (Moczulska, 2011). Employee direct participation has different qualities, i.e., the content (the issues involved), the scope (operational, tactical, strategic), the degree of formality (formal, informal – based on the freedom of participation), reality of influence (real, perceived – pseudo participation), stages of participation (full – when employees participate in all stages of the decision cycle, partial – only in selected stages and in any number of them), and intensity. From the last criterion, passive participation (co-operation) and active participation (co-decision) are distinguished. Co-operation is primarily based on informing and consulting employees about problems and their possible solutions. These are the so-called basic levels of participation (Błaszczyk, 1988) giving employees the right to information, hearing, speaking and advising. Co-decision, in turn, includes the right of employees to object, to consent, common dispute settlement and individual deciding. Thus, it constitutes their full participation in the decisions.

The model of using direct employee participation in the process of designing and implementing organizational changes is presented in Figure 1. The model assumes the participation of employees throughout the organizational changes process cycle from identifying their causes to control and monitoring of results (Ignyś, 2014). It includes both the participation of employees in the change team as well as direct individual and group participation in the process, reinforced using participatory methods and techniques of management. It also emphasizes the need for motivational change (internal – willingness, and external – opportunities created by the organization), together with the need for active involvement and support of the management for employees (Gobelna, Sidorkiewicz & Tokarz-Kocik, 2016), by choosing management style conducive to participation (Holland, Pyman, Cooper & Teicher, 2011; Gobelna & Marciszewska, 2016a). That is, participatory or consultative style (Moczulska, 2011; Szelałowska-Rudzka, 2015), showing open attitudes and ethical motivational behaviors (Czerska, 1996; Kizielewicz, 2015; Wolska & Kizielewicz), shaping mutual trust, teamwork (Wilkinson, Townsend & Burgess, 2013; Cierniak-Emerych, 2012), and employee involvement in the process (Chandani et al., 2016; Moczulska, 2011; Ignyś, 2014). It assumes occurring of the full spectrum of quality features of direct employee participation.



**Figure 1.** The model of employee participation in the organizational change process cycle

Source: based on Szałągowska-Rudzka (2017).

### 3. Research questions and methodology used

The aim of the article is the empirical verification of the employee participation model in the organizational change process cycle and the presentation and discussion of the results. To achieve this goal, the following research questions were formulated:

- 1) Do the employees of the surveyed organizations participate directly in the organizational change process?
- 2) What are the forms (group, individual), scope (operational, tactical, strategic), intensity (passive, active), and frequent use of direct participation of respondents in the change process?
- 3) What participatory management methods and techniques occur in the surveyed entities?
- 4) Do employees have the willingness and motivation to participate in the design and implementation of organizational changes?
- 5) To what extent do the management style of superiors and their attitudes and behaviors towards subordinates affect employee participation in the organizational change process cycle?
- 6) What employees' reactions to organizational changes are typical of the organizations surveyed and to what extent do they result from direct employee participation in the change design and implementation process?

To answer the questions mentioned above, the author has developed and conducted a pilot survey. The selection of the trial had a random character (Nowosielski, p. 5). The respondents – employees of Pomeranian organizations – were also part-time students of the Gdynia Maritime Academy (facilitation regarding the access to organizations). The survey was conducted by direct questionnaire method. The data were collected using a questionnaire survey of 10 questions and respondent's developed by the author and adjusted to the surveyed model. The questions in the survey related to the research questions and they concerned employee participation in organizational change process (its frequency, intensity, form), applied participatory management methods and techniques, managing style of superiors, their attitudes and behaviors towards subordinates, willingness (motivation) and possibilities of the employees to participate in the changes, their interest in the affairs of the organization and the reactions to these changes. The study allowed to verify the effectiveness and correctness of the questionnaire.



#### 4. Characteristics and results of the research

The study was conducted in December 2016. It was attended by 197<sup>3</sup> employees of organizations located in the Pomeranian Province. 90% of them are enterprises (including 73% private), 5% are municipalities, 3% non-governmental organizations (2% – other). 25% of the surveyed organizations employ less than ten people, 24% of them employ 10 to 49 people, 21% companies employ 50 to 249 people, as well as over 500 people, and 9% employ 250 to 500 people. 73% of respondents are between 20-30 years old (17% are 31-40 years old, 8% – over 40 years old and 2% under 20 years old), 66% are female, 34% are male. Most commonly they are employed in the executive position – 42%, or specialist position – 41%, less often managers – 13% (owners – 3%, other – 1%). Detailed results of the study are presented in Tables 1-10.

**Table 1.** Frequency of participation by the respondents at various stages of the process of designing and implementing organizational changes

Process stage	Frequency					
	Very often	Often	Neither often nor rarely	Rarely	Very rarely	Never
Recognition of the need for change implementation	16	34	20	14	5	11
Collecting information connected to the problem situation (need for change)	10	29	26	16	5	14
Search for possible solutions	15	34	19	14	6	12
Evaluation of the solutions	11	27	24	19	6	13
Choosing the ultimate solution	7	29	20	13	11	20
Preparation (organizational, technological, information) for change implementation – the chosen solution	13	23	27	11	9	17
Implementation / realization of the chosen solution	13	29	24	10	7	17

As shown in Table 1, 80% to 89% of respondents declare participation in different stages of the organizational change process. Employees most often participate in the first stage – identifying the need for change – 50% (very often and often responses), then searching possible solutions – 49%, and implementation of the chosen solution – 42%. They are least likely to participate in the evaluation of solutions – 49% (neither often nor rarely, rarely and very rarely), in gathering information related to the need for change and in preparation for implementation – 47% each (Table 1).

<sup>3</sup> There were 212 people altogether, but 15 questionnaires were rejected due to incomplete answers.

**Table 2.** The actual way of participating in the various stages of the process of designing and implementing the organizational changes declared by the respondents

Process stage	Way of participation in the decision-making						
	Infor- ming	Abil- ity to speak	Advi- sing	Right to object	Common dispute settle- ment	Indivi- dual decid- ing	No join- ing in
Recognition of problem – the need for change	21	37	16	2	15	2	6
Collecting information connected to the problem situation	16	35	19	4	12	3	11
Search for solutions	10	28	28	3	17	4	10
Evaluation of the solutions	15	26	19	6	13	4	17
Choosing the ultimate solution	14	23	16	7	15	4	21
Preparation (organizational, technological, information) for change implementation – the chosen solution	13	23	18	5	18	2	20
Implementation / realization of the chosen solution	17	19	19	5	18	4	18

The contribution of passive participation (the total of the responses: informing, ability to speak, advising) is greater than active participation (total of the responses: right to object, common dispute settlement, individual deciding) (Table 2). At the same time, the contribution of co-decision (active) is increasing from the solution search stage (24% – the total of the options: ability to object, common dispute settlement, individual deciding) up to the stage of the chosen solution implementation (27%). However, the percentage of respondents who did not participate in the process is increasing from this stage (searching solutions) (response: no joining in) (Table 2).

**Table 3.** The form of employee participation in the process of designing and implementing organizational changes

Form of participation	Responses (%)
individual	16
group	49
both	35

**Table 4.** Participatory management methods and techniques used in the researched organizations

<b>Methods/techniques</b>	<b>Responses (%) *</b>
Problem solution teams	43
Management by objectives	42
Work enrichment and design	21
Quality circles	8
Kaizen	4
TQM	3
Flexible working hours	30
None	20

\*More than one response was possible

**Table 5.** The way in which immediate supervisors usually make decisions

<b>No.</b>	<b>Specification</b>	<b>Responses (%)</b>
1	Individually	24
2	Seeking information from employees individually, without explaining the essence of the questions	11
3	Seeking information from employees individually, explaining the problem	31
4	Consulting the situation, the problem and the decision with a group of employees	23
5	Together with employees	11

49% of respondents declare team participation in the change process; another 35% declare both forms – team and individual (Table 3). The most commonly used management techniques are the group ones: team problem solving (43%), management by objectives (42%). Among the individual techniques, the most popular are: flexible working hours (30%) and work enrichment and design (21%) (Table 4).

A total of 54% of respondents states that their supervisor applies a consultative management style (the responses in lines 3 and 4, Table 5), and another 11% declare that the manager decides with the employees (democratic style) (line 5). The contribution of autocratic style – unfavorable to direct employee participation – equals 24% (line 1, Table 5).

**Table 6.** Attitudes and behaviors of the direct superior towards respondents

Statement	Strongly agree	Agree	No opinion	Dis-agree	Strongly disagree
Sets direct expectations of employees	25	54	9	8	4
Acts in accordance with employees	13	49	19	13	5
Informs about work results	18	53	14	10	5
Follows advice, opinions in decision-making (incl. organizational change) realized tasks	9	46	26	13	6
Their help and support can be counted on in difficult situations	24	41	17	12	6
Cares for employees	19	37	28	11	5
Treats employees subjectively	16	38	26	14	6
Cares for employees' professional development	18	38	27	13	4
Is competent (possesses the knowledge, skills, competence) as manager	24	40	19	11	6
Is the leader who can win employees in the organizational change process	18	37	28	10	7

**Table 7.** Responses concerning the willingness and possibility to participate in the change and become involved in the affairs of the organization

Responses (%) Issues	Willingness		Possibility	
	yes	no	yes	no
to participate in organizational changes	75	25	54	46
to express own opinions and views concerning the position/ department	86	14	82	18
to express own opinions and views concerning the enterprise	72	28	65	35
to suggest ideas concerning the position / department	84	16	78	22
to suggest ideas concerning the enterprise	65	35	56	44
to express concern	84	16	82	18
to share one's professional experience	80	20	86	14
gaining information about what is happening in the organization	78	22	68	32

The vast majority of employees are of the opinion that their manager sets clear goals – 79% (the total of the responses: strongly agree, agree), informs about work results – 71%, in the difficult situation their help and support can be counted on – 65%, he or she is competent as manager – 64% and works in agreement with employees – 62% (Table 6). Relatively the largest number of negative responses concerned the options: treats employees subjectively (46%: disagree, strongly disagree, no opinion), follows their advice and

opinions (45%), is the leader (45%), cares about employees (44%) and their professional development (44%) (Table 6).

75% of respondents declare their willingness to participate in organizational changes, but only 54% confirm that the organization gives them opportunities (table 7). Employees are most motivated to express opinions (86%) and suggest ideas (84%) concerning their work position or department and to raise their concerns in various cases (84%). They are less willing to comment on and submit ideas concerning the whole company (72% and 65% respectively). Knowledge sharing is the only case in which the opportunities offered by the organization (86%) outweigh the motivation of employees (80%).

Employees are also willing (78%) and able (68%) to gain information about what is happening in their organization (Table 7). Most often, this information comes from their observations (82%), from co-workers (60%), direct supervisors (49%), and meetings with company authorities (31%) (Table 8).

**Table 8.** Sources of respondents' information about their organization's situation

Source of information	Responses (%) *
own observation	82
customers	27
suppliers	9
immediate supervisor	49
meetings with company authorities	31
co-workers	60
gossip	21
media (e.g., papers)	7
no access to information	1

\*More than one response was possible

**Table 9.** The extent to which respondents care about the success (development, prosperity) of their organization

Very big	Big	Average	Small	Very small	None
29%	44%	18%	5%	1,5%	2,5%

73% of the respondents are concerned about the success (development and prosperity) of their organization, including 29% of them to a very big extent. Only 9% of the employees respond negatively to this issue (responses: small, very small, none) (Table 9).

**Table 10.** Attitudes and behavior of respondents towards organizational changes

Specification	Responses (%)
Indifferent	18
I only get involved when it is beneficial for me	27
I always engage in changes	51
I resist changes because:	4 *
I have no information about them	1
I do not know the reasons for implementation	1
I am afraid they will be unfavorable for me	1
I do not trust the management and their change design	2
I was not invited to participate in change	0
I have had previous experience concerning change implementation in my organization	2

\*More than one response concerning the resistance towards change was possible, so the partial responses do not sum up to 4%.

As shown in Table 10, most respondents – 51% are always involved in changes, the next 27% are also involved, but only when it is favorable for them, whereas 18% are indifferent. Only 4% of respondents declare resistance to organizational changes.

## 5. Conclusions and discussion

According to the study:

- vast majority of the surveyed employees of Pomeranian enterprises participate directly in the process of organizational change (real participation) at all stages (full participation);
- this participation is more likely to be co-operation (passive) than co-deciding (active) and manifests itself in informing employees, giving them the opportunity to speak and advise;
- concerns primarily the affairs of the work position or department (operational, tactical); to a smaller degree of the whole organization (strategic);
- employees have access to information about organization and the change process;
- they also have the conditions for participation created by the organization and the willingness (motivation) to participate in the change; they are concerned with the success (development and prosperity) of their organization;

- employees participate mainly in teams, as well as both in teams and individually, group and individual participatory techniques are applied to them;
- supervisors most commonly use consultative management style conducive to direct participation, show attitudes and behaviors that support employees in participating in the change process cycle;
- employees, on the other hand, manifest desirable attitudes towards organizational changes, i.e., engage in changes, do not resist them.

The conclusions mentioned above provide positive answers to the research questions. They point out that direct employee participation in the surveyed organizations positively influences the course of the organizational change process cycle and employee responses to change. Thus, it can be concluded that the proposed theoretical model of employee participation in the cycle of the organizational change process is effective and applicable in organizational practice, and the developed questionnaire has fulfilled its role by providing the necessary empirical data.

However, the study presented is a pilot study, and the conclusions concern only the subjects involved. Purposeful and occasional trial selection – the respondents were part-time students – facilitated the access to the surveyed organizations and conducting the study – but resulted in relatively optimistic results. The author is unable to determine whether, during the survey, the organizations underwent an organizational change or whether the respondents referred to the events (and their participation) from the past, or what the subject, scope and nature of the changes were.

The second study carried out by the author in March 2017, based on the same model, brought different results. It was carried out at one of the faculties of a Tri-city public university undergoing reorganization (change in the number of departments) whose determinants (subject, scope, determinants) were known. The analysis of the opinions of the surveyed faculty members (79% of the total number of academic teachers) indicated the presence of passive participation (informing), the autocratic style of faculty authorities (change designers) (53%) and the attitude of indifference (31%) and employee resistance (30%) to implemented transformations. Only 23% of respondents declared engagement into change. It was found that the course of the process and employees' reactions to change were significantly influenced by internal determinants (related mainly to employment conditions) and by the fact that the employees were involved in the process too late (Szelałowska-Rudzka, 2017).

The results of the study by Lines (2004) indicate a strong negative correlation between employee direct participation and resistance in the process of implementing a strategic change in a national telecommunications company.

The same study has also provided evidence of strong positive relationships between employee participation and achievement of the goal (the strategic change implementation) together with organizational commitment, which, according to Lines (2004), is determined by the accordance of participation with the company's organizational culture and personal goals. Another survey carried out by Miller, Johnson and Grau (1994) drew attention to the lack of negative reactions to organizational changes in the surveyed insurance company due to full access of employees to „high quality” information about the change.

The results of other analyses presented in the source literature indicate positive associations of direct employee participation in organizational change processes with their effects. For example, the study by Bordia and co-workers (Bordia, Hobman, Jones, Gallois & Callan, 2004) in public sector organizations demonstrated that employee participation in the decision-making process and employees' possibility to speak reduces uncertainty about the effects of change and increases control over its course. Morgan and Zeffane (2003), on the example of the different types of Australian companies, stressed the key role and importance of trust in management and the ability to fully consult with the superiors at the highest level in the change process. Allen, Jimmieson, Bordia, and Irmer (2007), from interviews with representatives of various organizations, found that effective internal communication realized through various sources positively influences the change. Coyle-Shapiro (1999) describes the good impact of employee participation and involvement by the implementation of TQM in a UK manufacturing company.

Scott-Ladd and Chan (2004) underline the positive effects of direct employee participation in improving the organization's ability to manage the change. Iverson (1996) and O'Brien (2002) in assuring change acceptance, also influenced by the choice of the proper management style (O'Brien, 2002).

According to the research presented above, direct employee participation in the process of organizational change in entities of different types, of different sizes, operating in different industries, countries and conditions, brings positive effects and is applied in organizational practice. It can be concluded that the author's model of employee participation in the cycle of the organizational change process, taking into account the aspects of the various sub-studies proposed by the authors referred to, is a response to the organization's needs. It can contribute to the desired employee reactions to organizational changes, to transform them into change allies, collaborating and involved in the process of its design and implementation. It is important that direct employee participation in decision-making is real, that employees are involved in the change process cycle from the first to the last stage and have full access to information. Then they will understand why the changes



are needed, what the reasons for them are, why they run in a certain way, and how they can best be implemented. They will accept the solutions in the choice of which they will participate. They will consider them their own and will not resist them.

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# THE INTEGRITY AS A BUSINESS STRENGTHENING FACTOR IN TIMES OF TURBULENT GLOBAL ECONOMY

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## Abstract

*Navigating a business these days is certainly not an easy task. The business environment is highly competitive and dynamic where changes advance rapidly and thus; there exist those who excel in this business environment and those who are closing the doors. In the pursuit of money and customers in these rapidly changing business conditions, today market actors may become tempted to take shortcuts and act half-heartedly or notably unfair just to overtake competitors and gain easy and fast income. Therefore, maintaining the integrity in an organization may become the critical challenge for modern businesspeople to retain the trust and loyalty of the employees, business partners, and customers and this paper focuses on these issues relying on Polish data and research results.*

**Keywords:** *integrity, organization, business, business environment, market, global economy, turbulent environment.*

## 1. Introduction

The turbulence in the global business surroundings evokes among the firms' owners and managers strong need of creating the effective organization, supportive control and supervision, and the permanent readiness to fight the competitiveness on the market. The up-and-coming call for acclimatization with all rapid and sometimes unlikeable changes taking place in the business environment should stay tuned to trends, customers' requirements, and market's challenges or simply to be able to encounter great competitiveness (Otoła, Grabowska, Ostraszewska & Tylec, 2016). The modern business focuses on innovations and the flexible approach to the customer and market.

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There is a tendency in implementing the increasingly advanced technological and technical solutions in business management in order to stay competitive and original. Szajt (2016) stresses the fact that the modernism in the industry, high-tech sector, innovations, the development and improvement of technique, and technology, are widely understood as the synonyms of the economic growth or the fundamental impulse of making the industry and service pick up the pace. No matter how much the business should focus on implementing the innovations in its functioning, it is vital to remember that the fundamental aspects of modern managements of organizations concepts put the stress on the important role of the human capital. Following the concept of Senge (1990), businesses with people create the system, just like in a natural world, in which each member has the influence on other members and they together stay in relationships that build the future of the whole organization. Furthermore, this set of people should combine the abilities to learn and think together, to focus and work on the same common objective for the best future for the organizations they work within. As a result, the leaders and employees need to share one vision about the future of the organization and use all possible resources such as capital, organizational, or financial other in order to fulfill the settled objectives (Senge, 1994). The resources controlled by people, their knowledge, ideas, and capabilities make the basis of business to build up its great competitiveness and, what is more important, people play a tremendously significant role in the process of creating all innovations or absorbing them from the business surroundings (Juchnowicz, 2007). The changes result from human creativeness and are used in the organization development and general functioning. The human capital, though, can determine the modernization of the enterprise (Czerniachowicz, 2016) and should be put forth in effective business management. The human resources become essential in terms of organization's potential competitiveness. It is quite obvious that apart from the capital of people the company needs to gather different types of resources (financial resources, knowledge or supplies, etc.). However, according to Śliwiński (2012), the human capital generates the vast variety of values which in case of Poland are: skills or capabilities, the strength of character, as well as the motivation and the experience. Furthermore, the author declares that the company's leader whose aim is to achieve the business development pays attention to workers, makes decisions with them, and considers them as members of one common family. Śliwiński mentions other valuable resources, but the right leader's attitude to employees and their business abilities stays in the first place on the list. The attitude of the leader is frequently connected with the amounts of his or her knowledge, experience, managerial capabilities, ideas or personality attributes. The way the manager or the business owner governs the company translates into the success or failure.

The management of the enterprise should, though, include the ability to manage the business in the area of its inner environment and outside in its outer environment which means taking into account the characteristics of the leader and employees, the organization itself or the features of the business surroundings (Kiełtyka, 2016). If the company wants to rely on its workers, the management needs, therefore, to focus on the adequate supervising and control of the employees in a way, they will stay integrated, and their place of work will be sociable. According to Senge (1994), the shared vision of the company should include the leader encouraging and supporting the employees to become devoted to all concepts and initiatives in the company as it brings the expected results. Senge's (1994) concept of enrolling workers in the vision of the leader's, might be considered as the process of building the amalgamation and integrity inside the company which should become a major aspect of the modern management of the enterprise. As Zwilling (2012) suggests the "*company's integrity is critical for getting and keeping customers and vendors,*" therefore this might be a key factor that strengthens the company within and makes it more effective and powerful on the market especially nowadays, in the turbulent global economy.

## **2. Culture inside the company**

The growing sense of the organizational culture as the determinant of the company's proper functioning of the market in discussions on contemporary business management is not surprising at all. The culture inside the company may reflect the shared values, trust, honesty or principles that both the leaders and workers follow or not. All these core values and ethics compose the integrity of the business (Harshbarger & Stringer, 2003). First conclusions on the importance of the right culture inside the enterprise have been drawn in the study of management during the research conducted in Japanese entrepreneurs. Japan pays attention to human potentiality and ability to create a well conducted and prosperous business, as the country which does not possess the natural resources. The human capital, therefore, has become to Japanese managers, the major resource of the firm's success on the market. The way the company is organized, structured and governed has become discussed as the basis of the well-functioning organization. Japanese have established that the organization means people inside, their attitudes, feelings, morality, norms, their beliefs, and expectations. If they are gathered together in the organization, they create a whole system of attributes and values with the same common aims and plans - the culture of the organization (Cameron & Quinn, 2006).

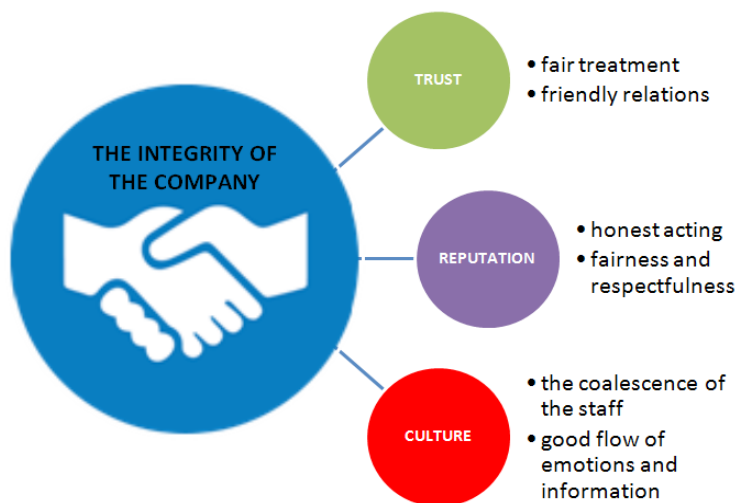
The right culture in the organization can build up the trust between the company's leader and the employees and, what follows, the true reputation of the business among the customers. The culture in the company defines its originality, individuality or unique spirit, which makes the firm exceptional on the market (Romanowska, 2001). The culture reflects the authentic mood and condition of the company. If it is good, the company functions in a better way. If it is wrong, the company suffers from the internal trouble, lack of positive attitudes and risks disloyalty or deception (Piotrowska, 2015). Therefore, the modern business should focus on improving the atmosphere in the company, relations between the workers, the workers and the supervisors, as well as between the company and the clients. The atmosphere inside the company, its culture, determines its general value as the entity on the market. The bigger this value is, the more competitive business can be. The way to increase the value of the enterprise resides in the groups of people it includes. The company can only build its value on the market if it takes its workers as the fundamental factor determining the success. The employees, if well paid and treated with attention and care, will raise the value of the company, develop and move forward. If the workers are treated deficiently and lack the fair payments, they eventually leave the company which will force the owners to hire new workers. Such a process can bring additional costs which will reduce the company's effectiveness and value (Rzemieniak, 2013). Hence, the company must think about the satisfaction of the staff, the constructive culture of the whole company and the ways to motivate the workers in order to build their loyalty and trust.

### **3. Trust and reputation building the integrity of the company on the market**

Trust builds all business relationships, not only those between the employer and the employees but also the company-consumer relationships. This trust forms the attitude of the clients towards the company. The more the clients feel confident with their relations with the company, the more it translates into the firm's success. The company should work out the ability to be fair and respectful at the basic level of its structure. Both the correlation inside the firm and that outside should be built on trust, and the acting itself should be responsible and based on the strong conviction to do what was promised. It is a component of an internal climate of the organization. If the company focuses on the mutual reliance and working together, it creates a natural and healthy atmosphere inside the organization which influences the climate in the external conditions, in the business environment and this builds the integrity in the company (Figure 1).



Therefore, as Cenker (2007) said, the adequate managing of groups of people should include the flow of information and emotions inside the company. The information should not just be given, but shared with the workers, so that they will become a part of the decision processes inside the firm and they will build the organizational culture based on trust and honesty, at the same time. The concepts of the internal public relations which belong to the idea of the human relations put the stress on the internal communication inside the company, the flow of information, and knowledge that influence the general look and credentials on the market (Rzemieniak & Kamińska, 2012).



**Figure 1.** The model of the integrity of the company

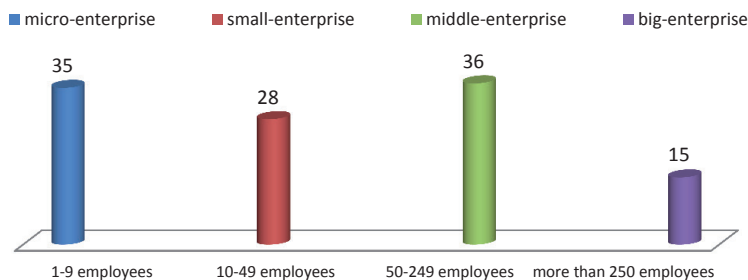
The trust in business makes the employees open with each other and open towards the owner or top managers. The common conditions give the opportunity to express true views or opinions, and if the environment is communicative, the employees can be given a certain amount of independence which should result in increased creativity. This freedom leads to cooperation among the employees, their interchange of ideas and mutual operation in order to create something valuable and effectual. Additionally, the friendly atmosphere and culture inside the company make the workers proud of their work, raise their aspirations and stimulate the career. The workers become more closely connected to the company (Czerniachowicz, 2003; Baruk, 2003). The integrated and united staff may bring a great chance for the company to adapt to the ever-changing marketplace easily, stay competitive or even achieve the advantage on the market.

#### 4. The meaning of the integrity in business among the Silesian companies - case study

The study conducted in 2016 included 114 enterprises of the Silesian Voivodeship. The aim of the study was to determine whether the Polish companies of the Silesian region make use of the limited and specific resources in order to accomplish business objectives on the market, and, if they need ones, they search for resources helping them to function in the domestic and foreign market. Furthermore, the study showed the companies how to explore the business environment in order to gather the resources and afterward effectively exploit them so that the company's operating in permanently changing business conditions would bring the success. Furthermore, the research helped to obtain the opinions about the organizational culture and personal work atmosphere in the companies, as well as to gather information if such issues like integrity in the company are important to the leaders or managers, and whether they endeavor to implement the strategy of integrity in their businesses.

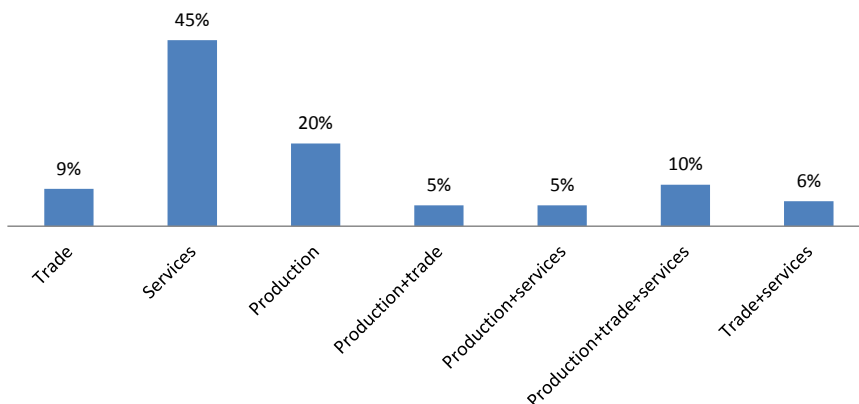
##### *Quantitative research*

The research was based on the questionnaire conducted among 100 enterprises with the use of the techniques CATI and CAWI, where only 14 companies took part in face-to-face interviews in the Czestochowa and Lubliniec regions. The types of companies of the research have been introduced in Figure 2.



**Figure 2.** The types of research companies of the Silesian Voivodeship according to the number of employees N=114

The amount of 45% of surveyed companies (53 respondents) function exclusively in the sector of services, 20% of the companies are involved in the production, and 10% include services in their activities alongside the production and trade. The results are introduced in Figure 3.

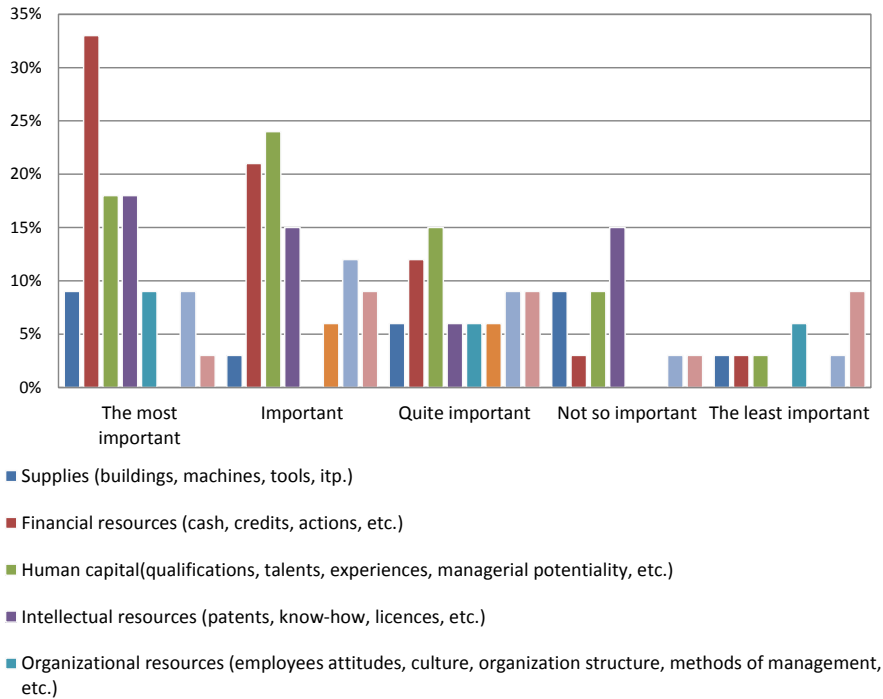


**Figure 3.** Types of business among the surveyed companies of the Silesian Voivodeship N=114

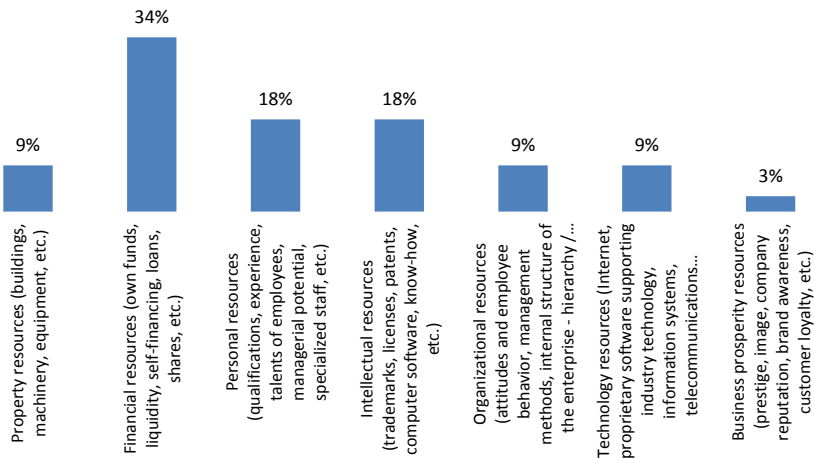
The amount of 9% enterprises in the survey belong to the group of trade companies, 5% of the companies join production together with trade and analogically, and 5% of companies are engaged in manufacturing and at the same time offer services. Additionally, 6% of entities are involved in trade joined with services.

According to the gathered information in a population of 100 firms, most of the entities focus on collecting the resources in order to develop their businesses and increase income. For the companies, the most important resources are the financial ones which were indicated as the most essential especially in terms of expanding business on the foreign market (Figure 4). The gathered results also reveal that the human resources appear to play a significant role for the companies if they aspire to run their businesses effectively.

Correspondingly, the companies indicated that the intellectual resources might also be crucial factors based on the successful market research. Besides, the companies consider the organizational resources or features such as a good reputation or renown (called by the authors' prosperity resources) as additional factors influencing the achievement of the company on the market. In case of the international operation of foreign markets, the companies which operate in foreign markets (33 entities from the sample of population of 100 companies) were asked to indicate the usefulness of the resources when it comes to function abroad. The gathered results are introduced in Figure 5.



**Figure 4.** The value of resources in business management in opinion of the companies of the Silesian Voivodeship N=100



**Figure 5.** The most important resources in internationalization of business in opinion of the companies of the Silesian Voivodeship N=33

The majority of companies in the survey (34%) indicated the financial resources as the most important in case of functioning on foreign markets, whereas, 18% of the firms admitted that personal (human) resources and intellectual ones are equally essential if the company aspires to operate on the foreign market. Such factors like prestige, renown or the reputation of the company, or organizational resources, including the culture of the company and the employees' attitude to work or managing style, according to 9% of the surveyed entities were indicated as evenly significant and helpful regarding internationalization of business. The gathered information during the survey on the population of 100 companies let to verify the assumption of the paper that the integrity based on the inner relations in the company, the work atmosphere, organizational culture that helps to establish trust and reliability in the company, is one of the most fundamental factors that strengthen the company and enables its more effective and successful functioning. This information can be confirmed by the collected results of a survey which indicates that companies search for and rely on the human capital, employees' competence, staff knowledge and experience which also build the general outlook of the business entity on the market. These aspects create the idea of integrity.

The case study conducted among the 14 companies let to obtain more opinions on valuable resources influencing the functioning of companies on the domestic and foreign market.

The gathered information emerged as a respected source of knowledge on how important the issue of integrity inside the company appears to be.

### *Case study*

The case study was based on the interview with the questionnaire among the 14 companies. The inquiries, besides the issues of resources, business environment, companies' objectives and business strategies, also touched the issues concerning the problems of trust and reliability inside the company. As well as, the matters of organizational culture, loyal staff, well-educated and qualified workers, the employees' attitudes and motivations, or the importance of the accurate and well-organized management. In general, the interviewed companies admitted that the human capital is essential concerning the success and competitiveness on the market. The companies put the emphasis on the staff skills, education, aspirations and proficiency, as well as the willingness to raise their qualifications. For the purpose of this paper, only selected examples relevant to the topic are discussed below.

Czestochowa producer and seller of the lighting goods in Poland, Germany and Italy rely on innovative tools and CNC (Computer Numerical

Control) machines<sup>3</sup>, owns the factory and several shops. The main concern of the company is the fact that there are not many welders and metallurgists on the market who are highly skilled and proficient, and willing do this profession at the same time. Those who work for the company are mainly in advanced age, and they are soon to retire. The company tries to predict the changes in the organization and in this case, puts much effort on gaining new talents and young hands to work and would consider themselves as an essential part of the company, integrated and devoted to the organizational plans, company's visions and projects. For the company, organized and motivated workforce earns the quality of the company, raises its value and contributes to a good future; therefore, the workers are treated as members of one integrated family.

Czestochowa manufacturer of vehicle links and cables especially for Italian and Middle East markets also emphasizes the importance of the family-like atmosphere in the company. The owners integrate with the workers in the way they feel needed and irreplaceable. For the company, the integrity means cooperation and motivation, but also the trust which gives the owners the certainty that they can rely on their employees if the market requires dynamic reaction and readiness. The integrated company also means the permanent presence of the owners.

The rule of the company is that at least one decisive person is present at the company during the day, so that he/she can not only control the production processes but also supports the employees if trouble occurs. The owners admitted that their presence strengthens the sense of cooperation and integrity among the workers.

Another firm in Czestochowa that produces toys for children, mainly buildings blocks, vehicles or summer plastic toys, clearly stated that the integrity inside the company should be the main concern of the owners or managers. This firm also puts the emphasis on the family relations among the workers. The owners who oversee the company belong to the same family, so the atmosphere in the company is very much familiar. The employees can always come and discuss the problems with the employers. The building has one story, the rooms' doors are deliberately open, and all people can use a shared kitchen and dining room together with the employer. There is a custom of a group breakfast or lunch break at one long table. What is even more interesting, the company hires mainly women, and if they feel the need, they can bring the children to work. However, it is practiced only in urgent situations. The trust and the feeling of comfort are obviously very high.

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<sup>3</sup> CNC machines and devices have built-in microcomputers and numerical control, so you can program fast and precise complex shapes. The CNC system is used in the latest generations of lathes, milling machines or electro-erosion machines. Manufacturing of components on CNC machines guarantees high reproducibility of accurately measured and programmed shapes, In: Lynch M. (2007), *What is CNC?*, CNC Concepts Inc., Cary IL.

The IT services Czestochowa company includes the staff of fewer than ten people. The owner's idea of the well-organized business assumes the private training and the process of adapting the new worker to the team's structure and character. Therefore, the owner prefers hiring people who possess general capabilities in information technology and web designing, but they lack the work style, and they need to be taught this according to the team expectations. Another company in Czestochowa belongs to the sector of automotive industry and produces the chassis components like ball-bearings and shields. The integrity of this company is generated through the permanent process of control and supervision. The owner has developed among the workers certain proceeding which assumes the employees should have the ability to solve the ongoing problems, propose the solutions or a course of actions for the good of the company. The example of the culture inside the mentioned company reflects the Senge's (1994) concept of the shared vision, which means that the leader wants the employees to integrate with the firm and create trust and value inside the organization. What is worth mentioning is the fact that in general the owner and top management of the company take all major decisions and strategies. The structure and organization are vast and includes more than 200 hundred people, so the family-like arrangement of the company, according to the owner, is not possible, but the worth and mutual responsibility of the company's objectives are achievable to be put into practice.

The next example is the producer of the cast iron. The company runs the largest foundry and thus hires more than 300 hundred people.

The employees work in three shifts. The owner and his son, as the chief manager, put the emphasis on the hard hand management. During the interview, the leaders admitted that the comfortable atmosphere inside the company builds the amount of the integrity and for the owners' trust and the loyalty of the employees are the most important, but these patterns of behavior should result from the strong leadership. On the one hand, the managers admit that today business should include the matters of good relationships between the employer and the employees so that they would treat the place of work as their source of income, area for personal contacts and exchange of ideas or solutions. In this case, the policy of the company is to hire mainly men who belong to one family or know each other privately, which, according to the managers' opinion, levels up the feeling of integration among the workers. However, on the other hand, the company keeps the sturdy hierarchical structure of the organization, and major decisive processes or strategic planning is done by the top management and the owner himself. The workers are supposed to do the duties assigned to them and for which they are responsible. The control is constant and instant, so the level of integrity appears to be vague.

## 5. Conclusions

For many companies today, the coherence and unity of employees and employers are at the heart of a success of the company in the marketplace. The integrity built on trust and proper organizational culture is reflected in the company's reputation, which, in turn, brings tangible results. The concept of modern management of the company cannot ignore the important role of the human capital. It is the foundation of a business that gives the opportunity to develop and gain competitive advantage. With a good team of workers with proficient competencies, often specialized skills, the company has the prospect to overcome the difficulties and volatility in the corporate environment and, as a consequence, increase its market value. The integrity in the contemporary business plays the significant role in combating the frequently unfamiliar conditions of the turbulent global economy. It reflects the strength of the company and its ability to go through the changes and the skill of fighting the problems or challenges in business surroundings. The results collected in the conducted survey allow for the conclusion that companies notice the need of possessing the adequate human resources which include the right amount of qualified, loyal and competent workers. In addition, the set of values such as the reliability, prestige, positive image of the company and the right organizational culture, have the influence on the company's functioning and strengthen its position on the market.

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# INFORMATION AND KNOWLEDGE NETWORK ANALYSIS IN AN ORGANIZATION

**Anna Ujwary-Gil<sup>1</sup>**

## **Abstract**

*The article presents a selected organization from the perspective of its network of relations and ties. The main networks to be analyzed are the information network and the knowledge network, which constitute core elements of every organization's operations. The article comprises theoretical considerations of information and knowledge as key intangible resources as well as information and knowledge networks. The research was based on a single case study in which the authors used the basic network measure, namely total degree centrality. Centralities are among the most popular measures which allow us to determine the prominences of network actors. Each network determines a different network of relations, such as: receiving and giving information and joint problem-solving, awareness of the knowledge and skills of other network actors as a necessary requirement for information and knowledge flow in an organization.*

**Keywords:** *information network, knowledge network, organization, total degree centrality.*

## **1. Introduction**

Information and knowledge networks are the key elements in every organization's operations. Information and knowledge flow determines communication between employees (actors) within an organization, and also the degree of using these resources. Both information and knowledge are key non-tangible elements, constituting a broadly understood intellectual capital of an organization. In a knowledge-based economy, organizations are becoming increasingly dependent on information and knowledge which they obtain, process in line with their own categories of perceiving the environment and use in order to achieve competitive edge. This competitive advantage is based on creating and proposing values for an organization and clients within a specific business model. Creating and/or proposing values takes place within the network of relations and ties. Information and knowledge become

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interdependent, located in the network of ties between actors. Information and knowledge networks thus becomes fundamental concept which allows us to assess the effectiveness of the flow and use of these resources in an organization.

An organization is gaining new significance. It is perceived through the prism of the relations, mostly between social actors, whose social structure affects many variables. Among them one can find giving and receiving advice among corporate creators (Brennecke & Rank, 2017), where supporting each other, joint problem-solving are important elements in creating innovations in an organization. The interest in intra-organizational network research has been growing (Figure 1). There are many authors who examine network structures and their influence on creating value (Tsai & Ghoshal, 1998); innovations and corporate results (Tsai, 2001); facilitating cooperation (Parker, Cross & Walsh, 2001), or creating knowledge (Cross, Parker, Prusak & Borgatti, 2001).



**Figure 1.** Intra-organizational network trends

Source: based on Google Ngram Viewer.

This article aims at examining how networks of information and knowledge are shaped in a public sector organization and whether they are correlated. The information and knowledge flow is closely tied to performing tasks and organizational work. The main research assumptions will be presented in the methodological part of the paper.

## 2. Information and knowledge networks in organization

Information and knowledge constitute the key non-tangible resources of an organization. These resources are more and more often presented in the context of their flows, which is associated with their more dynamic presentation. Information is a basic element of communication between people.

Information is generated on the basis of data which must be processed and contextualized to become information that can be passed or received from others via verbal or non-verbal communication (Lillrank, 2003). In everyday use, information affects individual and organizational decision-taking processes, whereas effectively managed and processed information facilitates building intellectual capital, a basis for innovations and growth (Buchanan & Gibb, 2007, p. 162).

Organizations are aware of the potential of information in building competitive advantage (Ismail & Yee-Yen, 2015). In the context of a resource, information, its creators, intermediaries and users are all perceived as separate and isolated elements. Thus information assumes a fragmentary form, not connected into the general flow of information and state of knowledge (Braman, 1989, p. 236). This approach to information, perceived as unrelated elements, dominated the atomistic perception of an organization. In the network approach pieces of information are tied to each other thanks to interpersonal relations of its actors. It is the subject of these relations, since their features include its ability to be passed on within the communication process (Barlow, 1994, p. 14). Information is an activity most often determined by the verbs such as: send, pass, receive, than by nouns. It is an activity taking place between people, even if it uses the services of such intermediary as tele-information structure. Therefore information is not an abstract thing but a relationship between two actors, so much greater emphasis is placed on the user (recipient, actor) of information. This relationship is always intentional, not random. It contains the actor's intentions, which, in the intra-organizational context, are goals, and in a broader context creating value and achieving competitive advantage. Information exchange is of key importance for the competitiveness of a particular organization and requires its free flow between members. Such flow should not be disturbed and it should be updated. However, providing broad access to information in organizations is still an exception rather than a rule (Li & Lin, 2006).

Information is primary to knowledge. The relationship between them is mutual (Choo, 1998). Knowledge is created and organized by a particular flow of information. Whereas information itself can be an activity, knowledge refers to human activity. According to Carlsson (2003) knowledge exists as a resource which can be transferred, re-combined and used in order to create the company value. On the other hand, it exists as a process, the knowledge flow, in which knowledge is created, passed, integrated and used, becoming key tasks in network management (Knight & Harland, 2005). This means such design of knowledge processes which will allow to achieve competitive advantage thanks to knowledge sharing and applying the existing knowledge to problem solving.

An ability of an organization to sharing knowledge among organization members is the key to achieve competitive advantage (Hansen, Mors & Lřvís, 2005; Ipe, 2003).

Two types of knowledge have gained wide acceptance, namely tacit and explicit knowledge (Collins, 2010). Explicit knowledge is codified, has formal nature (it is somehow formalized, written down in an organization), just like information. Tacit knowledge is personalized and based on experience. The significance of experience plays a vital role in understanding and in possibilities of applying tacit knowledge. Explicit knowledge may be understood and applied in a relatively simple way, without the need of adding experience. Tacit knowledge, on the other hand, cannot be formally passed on and requires experience in order to be understood. Therefore it is justified to perceive the tacit knowledge flow only as potential. Such exchange may be best presented as a network consisting of the knowledge of employees and their cooperation relatively to their task. The usefulness of information and knowledge occurs when a person can apply the information and knowledge while performing their tasks (Grant, 1996). Both information and knowledge are dynamic. This dynamics is connected with the perception of information and knowledge through the prism of relations and ties and their configuration, transformations related to knowledge transformation and practical use (in organizational tasks).

In this article information and knowledge networks (AA) are single-mode, though they may be double-mode – AK (for example actor (A) possesses and/or uses knowledge (K)). The determine how information and knowledge spread within an organization. The constitute of the same types of nodes, namely actors (A), that is organization employees, who contribute to information exchange, joint problem-solving or task division. In the AA information network actor  $i$  is related to actor  $j$  ( $AA_{ij}$ ) if actor  $i$  passes and/or receives information related to professional work, and within the knowledge network (AA) he jointly solves problems or is aware of the knowledge and skills of actor  $j$ . Then the matrix cell between  $ij$  elements = 1. The knowledge network determines the relationships between people. It allows us to examine with whom a particular person discusses or solves complex problems related to professional work and whether employees are aware of the knowledge and skills possessed by others. The network predictions of information diffusion, especially the information concerning knowledge and activities of other actors, are a good indicator of group results (Carley, 2005). Knowledge is located in heads of various people and, if it is to be used effectively, we need to know who possesses this knowledge.

Understanding the information flow is an important element in transforming information into knowledge.

Describing the patterns of interactions between people and information within an organization we gain an opportunity of analyzing the flow of knowledge created on the basis of joint problem-solving and information exchange over the functional and organizational boundaries and where the increased knowledge flow will exert the biggest influence on general productivity or value creation.

From the perspective of coordinating the network of ties, the organizational integration based on informal social mechanisms increases joint problem-solving. The theory of information processing shows that member of an organization use directions from official and unofficial sources to give them their actual sense, since behaviors are mostly driven by joint interpretation of events and actions (Soda & Zaheer, 2012).

Popular techniques examining the network of information and knowledge are the analysis of social and organizational networks which can grasp the complexity of the network of information influence and knowledge flow much more effectively than traditional knowledge maps. By mapping relations, the networks of information and knowledge allow us to discover informal communication patterns and compare them with the existing formal structures in order to explain organizational phenomena. This analysis helps us determine whether an employee in a particular point of the network provides information and knowledge to other parts of the network. The employees positions defined as information and/or knowledge provider are associated with a high level of information and knowledge exchange.

### **3. Research questions and methodology**

The research using the analysis of social and organizational network was conducted in an organization operating in the higher education sector. The choice of the case for our study was intentional, guided mainly by the accessibility criteria (Yin, 2011). The consent of the management is vital in such network research (Tsai & Ghoshal, 1998). The research was conducted at the turn of 2014 and 2015. There were 82 employees who participated in it, out of 89 we selected for the research, which accounts for 93% of the respondents. According to the assumptions of network research, the survey sample covered the whole population. We used a survey questionnaire which contained over ten questions, however, for the purpose of this article we only used four popular questions developed by Cross and Parker (2004) (see Table 1).

**Table 1.** Measurement of constructs

Organizational networks	Questions/statement	Scale	Acronym/matrix
Information network	1. How often do you give the information closely related to work performed in the organization to this person?	1 – never 2 – at least once a quarter 3 – at least once a month 4 – at least once a week 5 – at least once a day	AA_give_info
	2. How often do you get the information closely related to work in the organization from this person?	1 – never 2 – at least once a quarter 3 – at least once a month 4 – at least once a week 5 – at least once a day	AA_get_info
Knowledge network	3. Which of these persons and how often do you contact to get help in solving complex problems related to performed work?	1 – never 2 – at least once a quarter 3 – at least once a month 4 – at least once a week 5 – at least once a day	AA_solve
	4. I am aware of the knowledge and skills possessed by this person. This does not mean I have the knowledge and skills, but I understand what skills and knowledge this person possesses.	1 – definitely not 2 – rather not 3 – it is difficult to say 4 – rather yes 5 – definitely yes	AA_understand_skills

The questions were developed using Likert’s five-grade scale, which was then dichotomized. In the matrix concerning the information and knowledge network we took into consideration strong relations (4 and 5), attributing the value of 1 to them. The answers on the 1-2 grades were given the value of 0. Such matrix was then used for calculations using the centrality degree measures (Table 2).

**Tabela 2.** Total degree centrality

Metric	Description	Formula
Total degree centrality	The total-degree centrality of a node is the normalized sum of its in-degree and out-degree.	Let A be the input network with N nodes and maximum link value v Total-degree centrality for node i = $(\sum(A(i,:)) + \sum(A(:,i)) - A(i,i)) / 2 * V * (N-1)$

**Source:** Altman, Carley & Reminga (2017, p. ).

The basic tool for correlating the matrix is the Quadratic Assignment Procedure (QAP). QAP computes the Pearson correlation all pairs of a set of



equally sized square matrices, and assess the frequency of random measures as large as actually observed. The procedure is principally used to test the association between networks. Often, one network is an observed network while the other is a model or expected network. The algorithm proceeds in two steps. In the first step, it computes Pearson's correlation coefficient between corresponding cells of two data matrices. In the second step, it randomly permutes rows and columns (synchronously) of one matrix (the observed matrix, if the distinction is relevant) and recomputes the correlation and other measures. The second step is carried out hundreds of times in order to compute the proportion of times that a random measure is larger than or equal to the observed measure calculated in step 1. A low proportion ( $< 0.05$ ) suggests a strong relationship between the matrices that is unlikely to have occurred by chance. This procedure is repeated for every pair of matrices. The larger the number of permutations, the better the estimates of standard error and significance (in our case it was 10,000). UCINET generates a different random number as default each time it is run. This number should be changed if the user wishes to repeat an analysis. The range is 1 to 32000 (in our research the random seed was 22041). The output consists of results for each pair of matrices and contains the following: the observed value i.e. the correlation between the two matrices; significance i.e. the proportion of randomly generated correlations that were as large (or small if they are negatively correlated) as the observed; the average, maximum, and minimum of all the generated values together with their standard deviation; the proportions as large and as small as the observed (Borgatti, Everett & Freeman, 2002).

Additionally, the scatter plot has been used to show the association between the total degree centrality of specified networks. A scatter plot uses Cartesian coordinates to display values for two variables. The data is displayed as a collection of points, each having one coordinate on the horizontal axis and one on the vertical axis. A scatter plot does not specify dependent or independent variables. Either type of variable can be plotted on either axis. Scatter plots represent the association (not causation) between two variables. A scatter plot can show various kinds of relationships, including positive (rising), negative (falling), and no relationship. If the pattern of dots slopes from lower left to upper right, it suggests a positive correlation between the variables being studied. If the pattern of dots slopes from upper left to lower right, it suggests a negative correlation. A line of best fit can be drawn in order to study the correlation between the variables. An equation for the line of best fit can be computed using the method of linear regression (Altman, Carley & Reminga, 2017, p. 568).

Referring to the introduction and the main goal of the article, the basic research problems consist in examining:

*Is there a correlation between the information and knowledge networks in the examined organization?*

*Is there a correlation between total degree centrality of actors in the information and knowledge network?*

#### 4. Research results

Table 3 presents the results of correlations obtained thanks to associating four matrixes mentioned in Table 1. The results show relatively high correlation between information networks AA\_give\_info and AA\_get\_info, where  $r=.761$ ,  $p<.0001$ , which confirms high dependence between these networks. An equally high correlation exists between the knowledge network (AA\_solve) and the information network (AA\_get\_info and AA\_give\_info), where  $r$  is, respectively,  $r=.668$ ,  $p<.0001$  and  $r=.655$ ,  $p<.0001$ . A slightly lower correlation is recorded by the information networks with the knowledge network AA\_understand\_skills. Here the correlation is  $r=.321$ ,  $p<.0001$ ;  $r=.333$ ,  $p<.0001$ , or slightly more  $r=.340$ ,  $p<.0001$  for the knowledge network AA\_solve.

**Table 3.** QAP correlation

		1	2	3	4
1	AA_get_info	1.000	0.761	0.668	0.321
2	AA_give_info	0.761	1.000	0.655	0.333
3	AA_solve	0.668	0.655	1.000	0.340
4	AA_understand_skills	0.321	0.333	0.340	1.000

**Note:** QAP p-values 0.0001.

The next Table 4 presents the position of actors in a particular network (the most important people from the perspective of prominence, occupied position in the network and their influence on the network and other members of an organization). We presented the results of the actors' prominence only from the top ten, due to the lack of space for a more in-depth analysis.

Central people in a given network are those who are related with many other people and who, thanks to their position, have access to their information, knowledge, ideas, thoughts, opinions. The degree of centrality allowed us to identify that most connected people in the network from the perspective of information and knowledge flow. A prominent place is occupied by actors: A79 (AA\_give\_info), A65 (AA\_get\_info), A61 (AA\_solve), A55 (AA\_understand\_skills). These people can send the information quickly, share their knowledge and also control the flow of information and knowledge in an

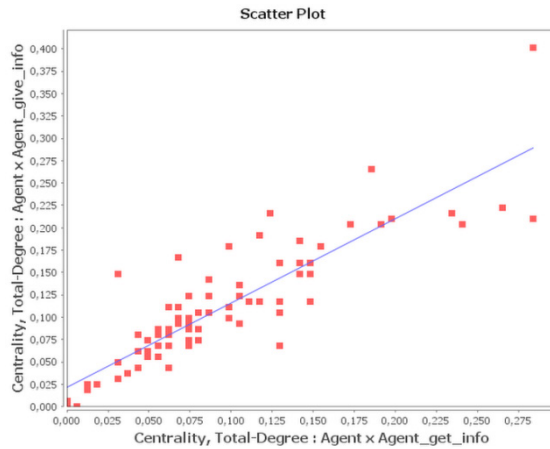
organization. Employee A79 in network AA\_give\_info has connections with 40% of actors in the network and is the most central figure in the network. Other values oscillate around 20%, except for network AA\_understand\_skills, where actor A55 has 83% of all connections in the network.

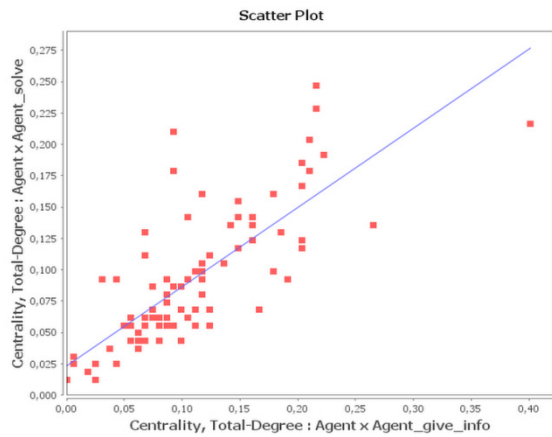
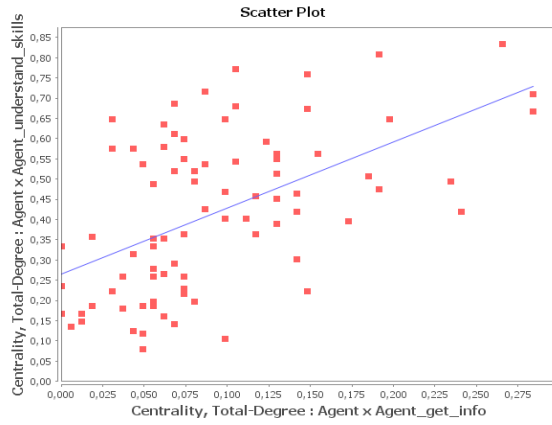
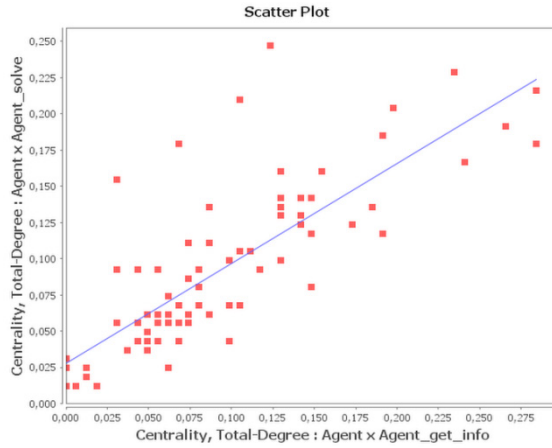
**Tabela 4.** Degree centrality of information and knowledge networks

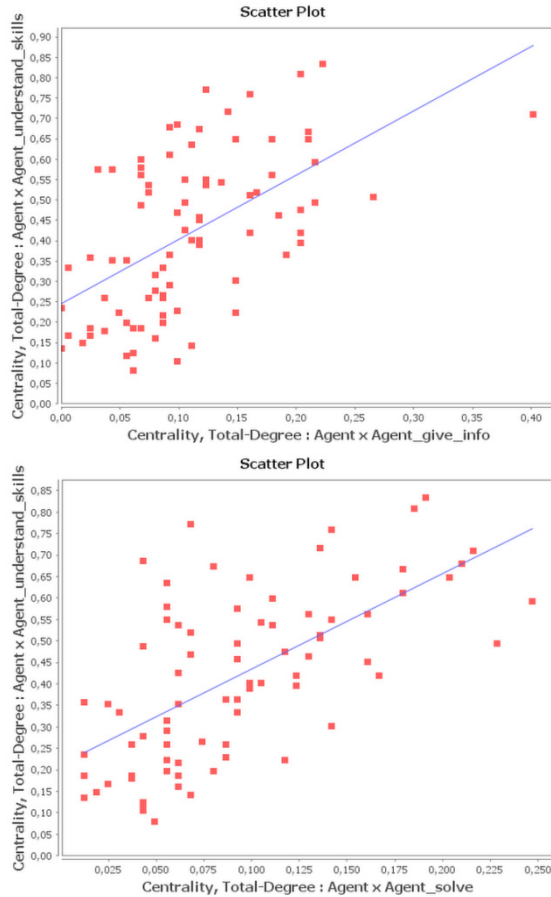
Network	AA_give_info		AA_get_info		AA_solve		AA_understand_skills	
Rank	Actor	Result	Actor	Result	Actor	Wynik	Actor	Wynik
1.	A79	0.401	A65	0.284	A61	0.247	A55	0.833
2.	A32	0.265	A79	0.284	A36	0.228	A14	0.809
3.	A55	0.222	A55	0.265	A79	0.216	A41	0.772
4.	A36	0.216	A72	0.241	A05	0.210	A06	0.759
5.	A61	0.216	A36	0.235	A40	0.204	A12	0.716
6.	A40	0.210	A40	0.198	A55	0.191	A79	0.710
7.	A65	0.210	A14	0.191	A14	0.185	A44	0.685
8.	A14	0.204	A17	0.191	A19	0.179	A05	0.679
9.	A17	0.204	A32	0.185	A65	0.179	A29	0.673
10.	A54	0.204	A54	0.173	A72	0.167	A65	0.667
	Min: 0	Max: 0.401	Min: 0	Max: 0.284	Min: 0.012	Max: 0.247	Min: 0.080	Max: 0.833
	M: 0.109	SD: 0.068	M: 0.093	SD: 0.063	M: 0.092	SD: 0.055	M: 0.417	SD: 0.194

**Notes:** Min: min value. Max: max value. M: mean. SD: standard deviation.

Figure 2 below present the total degree centrality of the information network nodes (AA\_give\_info; AA\_get\_info) and the knowledge Network nodes (AA\_solve; AA\_understand\_skills) and the level of their correlation.







**Figure 2.** The scatter plots of total degree centralities of information and knowledge networks

Each square in the graph represents a particular node (employee of the organization). Nodes located in the upper corner of the dispersed graph show a high degree of centrality for the given persons. The inclination ( $M$ ) of the line ranges from 0.630 to 2.225, which, in the latter case, means that the normalized centrality of the node `AA_solve` is approximately twice as big the normalized degree of centrality of the node `AA_understand_skills`.  $R^2$  of the linear regression ranges from 0.286 to 0.778, which means that between 28% and 77% of the centrality of a particular network node can be explained by the centrality of the node of another network. Correlation  $r$  determining the relations between the centrality degree of the nodes of particular information and knowledge networks ranges from  $r=.535$  for the point graph covering x axis (`AA_get_info`) and y axis (`AA_understand_skills`) and  $r=.878$  for the point graph covering x axis (`AA_get_info`) and y axis (`AA_give_info`).

## 5. Conclusions

Centrality measures are the most popular measures in the analysis of social and/or organizational networks. Based on them we could determine the most central and influential person in an organization, taking into account the number of all possible interactions in a given network. This person could play the role of a change leader, implement innovations, activate others to cooperate, organize information and knowledge flow and many other activities, related, inter alia, to allocation of resources and knowledge. This, obviously, does not mean that we should focus only on the prominent nodes in the network. Peripheral nodes, located on the peripheries of the network or possessing low values of centrality measures, may constitute a source of additional specialist knowledge and their potential is not fully used by the organization.

The research using QAP and scatter plot indicated that there is a high correlation between the information and knowledge networks. A slightly lower correlation was found between information networks and knowledge network (AA\_understand\_skills). In the examined organization the degree of networking strong relations (density) in the knowledge network AA\_solve is relatively low and amounts to 9%. Although 41% of people are aware of the knowledge and skills of co-workers, this does not necessarily translate into joint problem-solving. Scatter plot was used for examining the relations between the degree of centrality of information and knowledge networks. The graphs have shown that prominent people in the information network also occupy prominent positions in the knowledge network. The centrality degree provides information on the most central actors in the information and knowledge network. The organization may use the potential of these people in managing the organization, especially when central people in the network are not necessarily and not always those who occupy management positions. Especially as the identification of the information and knowledge network concentrates mostly on informal relations in the organization. Prominent people in the network (organization) may run trainings, work as mentors for the newly-employed staff or be project leaders.

The research was had a primary and cross-sectional nature. It concentrated only on one measure – total degree centrality. In the future we can examine the relations between various measures of centrality. For example, we may check whether the actors who are the most influential ones due to their occupied (central) position in the network are also the people who most often work as intermediaries in passing (or blocking) information and knowledge in the network. An interesting aspect of this research would be to include the attributes such as years of service, age, occupied position in the organizational hierarchy, and even gender as the explanatory or controlling variables for particular networks of information and knowledge.

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# HOW TO BUILD COMPETITIVE EDGE THROUGH CORPORATE SOCIAL RESPONSIBILITY IN SMES - COMPARISON ANALYSIS OF POLISH AND DANISH ENTERPRISES

**Monika Zajkowska<sup>1</sup>**

## **Abstract**

*The processes taking place in the modern economy mean that the functioning of enterprises is constantly changing. The effects of these changes directly translate into the development of business entities. In this context, one should pay attention to those elements whose implementation in a functioning enterprise may give impetus to a faster development than a rival. One such element seems to be the implementation of the concept called Corporate Social Responsibility (CSR). The study aimed to find out the opinions of using CSR concept in the process of building competitive edge among entrepreneurs from the Small and Medium-sized Enterprises (SMEs) sector in Poland and Denmark. The choice of a partner country for Poland to conduct a comparative study was not accidental. Denmark is often mentioned as one of the most socially responsible countries in the world. Qualitative research was used to collect data. Between February and November 2016, ten individual in-depth interviews were conducted with representatives of micro, small and medium-sized enterprises representing various industries (trade, services, production) in Poland and Denmark. Analysis of the results shows a similar level of development and use of CSR as a tool to build competitive advantage in Poland and Denmark, where all surveyed companies submitted such a declaration. The two main motivations for the respondents from the two surveyed countries differ widely. From Polish side, there is perception of CSR as a positive standard - a norm that is worth observing sets the framework for the action of contemporary companies and positively influences their image and willingness to act in accordance with its internal ethical standards. From Danish side, the most important reason for implementing CSR activity are: the company's performance following its objectives, values, and vision and ensure the development of the company through the transparency of the operation.*

**Keywords:** *Corporate Social Responsibility (CSR), competitive edge, Small and Medium-sized Enterprises.*

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## 1. Introduction

To achieve market success, it is not enough to “think” about yourself, your financial performance, your profits, your costs, or your employment. Increasingly, Small and Medium-sized Enterprises (SMEs) undertake to implement the strategy of internationalization and globalization. Suszynski (2007) argues that globalization creates a new quality of the market mechanism that creates more challenges for the broader group of its participants, even civilizations, and therefore demands them at the level and intensity they did not experience before. Meeting these challenges leads to far-reaching changes in the foundations and functioning of enterprises and the evaluation of the results from their activities. The most important factors in such distinction, functioning, and evaluation of enterprises are the criteria and values broader, even globally accepted, e.g., value for the customer, value for the shareholder (Suszynski, 2007, p. 53). This position proves that purely business activities, which are so important to an economic agent, are often inadequate. The answer to such market behavior is, among others undertaking such activities, the final recipient of which will also be the group of people who have not yet been associated with the business entity concerned. The tool that serves such a “modern look” on the company’s environment are the tasks performed under the concept of Corporate Social Responsibility (CSR).

CSR has been in long term use as an explicit framework to understand the business and society relationship better. At the beginning, CSR was used as a general term arguing that managers ought to seriously consider their impacts on society. It was later thought to embrace those actions which managers and organizations take to protect and improve the welfare of society along with business’s interests. In this view there are two dynamic aspects of CSR, protecting and improving. To protect society implies that companies need to avoid their negative impacts (e.g., pollution, discrimination, unsafe products). To improve the welfare of society suggests that companies need to create positive benefits for society (e.g., philanthropy, community relations). Another early thought was that companies had not only economic and legal obligations but also certain responsibilities that extended beyond those obligations, though these were not spelled out (Caroll, 2015, p. 90).

Today, the economic responsibility remains vital, because owners and investors expect companies to provide them as a condition of existence fair-to-good returns, and the legal responsibility continues to be relevant in that it clarifies and expresses minimum levels of behavior and performance.

There is a common understanding among companies, politicians, stakeholders, and customers that CSR is important, and SMEs need to do more if they want to achieve improvements in the world. It has become clear

that the expectation that SMEs would be able to adopt the whole CSR agenda was too optimistic and unrealistic. There are many reasons for that. It would be naïve thinking, like in the classical approach to CSR, that large enterprises are the norm and model to follow and to each (Jenkins, 2006, pp. 241-256). It is worth recalling the key differences between small and large organizations presented, among others, by Gibb (2000, pp. 13-34). Large operators are characterized by the strong formalization of actions, the small ones by their informal nature. When large entities will include CSR in their strategic plans, or even build their company strategy on this concept, the small ones will take rather unplanned activities. In the end, the large enterprises will act based on many standards and norms, and SMEs by entrepreneurs' intuition and ad hoc action. In larger firms, staff will be assigned to these activities, the smaller operators will appoint one person for managing the companies CSR as an additional activity. As a result, CSR in large enterprises will be embodied in large social marketing campaigns, while in SMEs it will be limited to local operations on a small scale, the effects of which are hard to measure or to monitor, and mostly relate to environmental challenges and safety.

According to Pogorzelski (2008), the concept of CSR is simply not to deceive, not to discriminate, not to favor one at the expense of others, not to manipulate (and other unethical practices) in communication and sales. It seems that many CSR projects have failed because their managers have entered this concept into the framework of tools and processes, as is the case in implementing promotional projects. Showing the socially-oriented face of an organization in this form can be counterproductive.

Evidence suggests that the majority of SMEs believe that organizations like themselves should pay significant attention to their social and environmental responsibilities (Southwell, 2004, pp. 96-111). SMEs play a crucial part in investments in social capital that can help to overcome common problems in society, but they tend not to reflect on their social practice as they are frequently motivated by personal moral convictions not business reasons (Habisch, 2004, pp. 25-34).

Undertaken business ventures are always preceded by the question: "Is it worth to me?" Observing the activities of SMEs in Poland in the area of CSR, it seems that the doubts revolve around the same questions.

You cannot be surprised by this approach because the firm opinion is that the primary task of business is to make a profit is still valid. According to this assumption, everything that a company does, such as creating new products or hiring people, is making money. A focus on the short term can mean long-term investment projects in CSR are not of immediate concern (Carlisle & Faulkner, 2004, pp. 143-152). On the other hand, it has been argued that being smaller and flatter, SMEs may be better placed than large firms to take advantage of

the changing needs of society (Sarbutts, 2003, pp. 340-347; Perez-Sanchez, 2003, pp. 67-77).

There is no evidence in Poland that companies that engage in CSR are developing faster, earning more, or have more loyal customers. There are, however, in-house research studies that show ethical companies with credible management staff and support workers. By applying these principles in practice, they achieve significantly higher levels of employee motivation, identification with the employer, and employer satisfaction than a similar company not using these methods (Jagielska & Rok, 2006). CSR, primarily for employees, is the foundation for successive social ventures, facilitating the overall strategic goals of the company. A key educational problem is the conviction of companies that social engagement will increase their intrinsic and external value. The lack of measuring tools for the implementation of the social concept does not undermine the benefits of a CSR enterprise.

An enterprise that intends to do business with respect to the principles of corporate social responsibility must be aware of the need for a comprehensive look at its areas of operation. CSR is not a package of individual programs and actions, but a coherent management concept. The implementation of a comprehensive CSR strategy should be integrated with the objectives of the business and the needs of society. Achieving synergies requires the selection of tools and areas of action appropriate to the company profile and its surroundings. CSR is positioned as another management function that considers the company's responsibility for the competitive reality in which it operates. It is important to understand the essence of CSR and to skillfully develop the necessary elements to prove that it is an effective management formula and a genuine contribution of the company to the proper functioning of the environment.

## **2. Corporate social responsibility and competitiveness – discussion**

Defining the notion of competitiveness - like the concept of CSR - is not an easy and unequivocal task and provides many discussions. It is well known that there are many diverse factors contributing to the efficient and more competitive functioning of the business entity.

They can be among others well-designed and implemented business objectives, efficient strategy, offering the attractive customer products, maintaining good relations with other market participants. The importance of these factors in the modern conditions of functioning of business entities does not decrease. They are, however, supported by others, which in turn translate into broadly understood market success.

The implementation of these factors, including corporate social responsibility, is evidence to the level of enterprise competitiveness and can become one of the most important market factors. The pursuit of increasing competitiveness is not a mere activity within the inside enterprise. Competitiveness is a theoretical notion and the state and process relating to the sphere of activity of market institutions. Stankiewicz (2002) determines competitiveness as the ability of an economic entity to successfully implement its objectives in a competitive market. Elements that are part of the concept of competitiveness are (Rybak, 2003, p. 11):

- competitiveness potential - opportunities for the effective functioning of the company on the market;
- competitive advantage - it is possible to achieve as a result of the strategy pursued by the company;
- competitive instruments - tools and methods to win customers and suppliers under conditions that the company accepts and pursues its goals;
- seller's competitive position - the market's assessment of what the company offers.

For the existence of competitiveness, the market is essential, and it is itself a feature and mechanism regulating the behavior of the market players (Roszyk-Kowalsk, 2006). It can be argued that competitiveness is also considered to what is happening in the business environment. This position is in line with the idea of recognizing the competitiveness of an enterprise. Under this concept, competence can determine its ability to create development tendencies continuously, increase productivity, and effectively develop outlets in the conditions of offering better and cheaper goods and/or services to competitors (Adamkiewicz, 2001, p. 1). There are causal relationships between the elements of the company's competitiveness, which means that changing one of these elements causes another to change. Simultaneous changes in the individual components of a company's competitive advantage, competitive advantage, and customer competition instruments affect a company's ability to compete.

Considering the concept of corporate social responsibility in the context of competitiveness of companies are also worth referring to many of the emerging discussions in the literature.

Grayson and Hodges (2004, p. 9) maintain that the driver for business success is entrepreneurialism, a competitive instinct, and a willingness to look for innovation from non-traditional areas such as those increasingly found within the CSR agenda. They stated that one way to engage SMEs more effectively in CSR is to demonstrate how they can achieve added value and competitive advantage through realizing and maximizing the opportunities

presented by CSR, an often-neglected dimension of SME performance management.

The modern look at CSR appeared in '50th thanks to Bowen (2013). He explained that business activity concerns ordinary people and therefore business should conduct such actions that will be coherent with social aims and values. On the European ground, the idea of responsible business was developed in the Davos Manifesto (1973) which included a statement that business does not only mean generating profits but is also a service regarded as an obligation to fulfill the expectations of enterprises' surrounding and to balance interests of various groups that operate within it<sup>2</sup>. Small firms are unlikely to employ individuals in marketing or PR roles and therefore are not likely to consciously pursue goodwill from their CSR activities for commercial exploitation (Jenkins, 2009, pp. 21-36).

CSR positively influences the realization of the enterprise development concept and thus attains a higher degree of its competitiveness. Activities that may become important factors for this postulate include (Stępień, 2009, p. 33):

- acquisition of new “environmentally friendly” products;
- using „cleaner” production technology;
- identification of important environmental points (protection of waters, land, air, landscape, waste management, production technology and technology);
- the inclusion of an economic entity in a pro-ecological group of organizations;
- reducing future environmental commitments;
- strengthening management systems through comprehensive “environment-economy” interaction information;
- to isolate the environmental management system as a tool to support eco-friendly activities;
- increase the attractiveness of the business unit due to the level of interaction “economy-environment.”

Actions carried out under CSR also indirectly lead to many policy objectives, such as greater integration of labor markets, increased social cohesion, increased innovation, and sustainable use of natural resources. The controversy surrounding the concept of corporate social responsibility derives from the existence of a group of its opponents who, by listing CSR risks, are trying to depress these actions and consider them socially unjustified. Among the arguments in view “against” CSR are (Griffin 1996, p. 150):

- the main purpose of the enterprise is to generate profit;
- there is a conflict of interest between stakeholders;

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<sup>2</sup> The latest ideas promoting CSR in Europe and the rest of the world include: Global Compact by UN (1999), Lisbon Strategy by EU (2000), Green Paper on Corporate Social Responsibility by European Commission (2001), European CSR Campaign (2005) and many more.

- running social programs does not fall within the core competence of businesses;
- the implementation of social programs becomes a tool for influencing businesses.

Most often mentioned by the opponents of CSR, however, is the argument that the company incurs significant costs associated with the implementation of this concept. Equal attention is paid to the difficulty of measuring the benefits of investing money for social purposes (Rojek-Nowosielska 2006, p. 57). In an owner-managed SME, the CSR direction taken often will depend much on personal values. The subjective judgment of the owner-managers has a strong influence over the strategic decision of SMEs. Usually, the CSR activities can be motivated by values of the owner-manager. Change process of CSR should be guided by the owner-manager, who have the necessary interpersonal skills to build both internal and external networks to help identify, access and disseminate new knowledge and skills (Jones, 2003, pp. 15–33). Companies may experience difficulties in making CSR operational; there often seems to be a gap between rhetoric and implementation (Grayson & Hodges, 2004). However, in SMEs, this gap may be smaller, due to the closeness of the owner-manager to the day-to-day operations of the company, and therefore easier to overcome.

Despite the actions of opponents of social responsibility and arguments highlighting the risks involved, there is no doubt that CSR is becoming a strategic concern for the business of an ever-larger group of companies. CSR is based on ethical, universal, and timeless values. It is an excellent element of the fundamental development objectives and actions of enterprises; therefore society's trust in business increases and an enterprise benefits more. CSR attitude should not be a single charity action, dishonest PR, a set of incoherent actions or be limited only to sponsorship. It should be a company's well-considered sub-strategy coherently implemented with other ideas. Especially for SMEs, it is usually a result of an owner's and all employees attitude, value system and working style (corporate culture).

Acting on CSR in smaller companies also seems reasonable in terms of building a long-term competitive advantage on the market.

## **2. Research methodology**

The study aimed to find out the opinions of using CSR concept in practices of building competitive edge among entrepreneurs from the SME sector in Poland and Denmark. The choice of a research partner country for Poland to conduct a comparative study was not accidental.

Denmark is often mentioned as:

- one of the most socially responsible countries in the world;
- the country that has the most socially responsible companies in the world;
- a country whose people are very equal;
- a country without corruption.

Why is that? There can be several answers to that, but the legislation in the country on environment and workplace environment plays a central role in the development of CSR in Denmark. Another answer can be the right cooperation between companies and strong unions. In Denmark, there is normally a positive dialogue between companies and unions. In general, Denmark has a long tradition of dialogue on many levels. The high level of legislation forces the companies to be more responsible on many levels. Not because they want to be more responsible, but because they must be more responsible. On the one hand, it is good that companies are forced into CSR, but it is a challenge. The legislation provides the society with a good level of responsibility. But many companies only do what they must do. That way the legislation can be an obstruction for developing CSR. Some companies can “hide” behind the legislation and are not motivated to do more.

Qualitative research was used to collect data. Between February and November 2016, ten individual in-depth interviews were conducted with representatives of micro, small and medium-sized enterprises representing various industries (trade, services, production) in Poland and Denmark. These interviews enabled us to recognize respondents’ awareness of corporate social responsibility and their customs and beliefs about CSR practices.

The interview questionnaire was created because of international cooperation, based on the ISO 26000 standard. As a result of the joint work, a single version of the interview questionnaire was created. Interviews were conducted mainly with owners or co-owners (8 Polish companies, 4 Danish companies). The respondents in the second group were co-decision-makers or strategic decision makers (2 Polish companies, 4 Danish companies).

In the Danish study, the respondents’ group was extended to include high-level executives in the company but not influenced by strategic decisions - two Danish companies.

### **3. CSR and building of competitive edge in Danish and Polish enterprises – research results**

Based on the results of in-depth interviews on the concept of CSR in the micro, small and medium-sized enterprises sector in Poland, we can try to determine their impact on building a competitive advantage for individual companies.



The results of the study were also compared with the results of the Danish study.

In the case of the CSR concept, it can confidently say that it has gained its popularity in recent years, thanks to enterprises for searching new ways to enhance their image. In this perspective, the most important component for Polish enterprises turns out to be market relations. Social responsibility to market relations was most appreciated in the declarations of the surveyed enterprises. Responsibility for relations with the target market, which deals with issues related to customers and business practices, is important for 9 out of 10 respondents. Interestingly, Danish companies do not treat business practices and customer issues as the most important. For them, the most important was the practice at the workplace and then the concern for the environment, practically ignored by Polish respondents.

Another important factor that determines the use of CSR by Polish companies is the fact that currently observed increasing consumer awareness is rising. Their demand for both products and behavior is increasing. Customers in their purchasing decisions increasingly rely on trust in each company and its image. Corporate social responsibility can increase customer loyalty and corporate stakeholders. Pro-social and pro-ecological organizations can also facilitate its trust and support of local government and the local community. These issues were detailed by seven respondents in Poland.

The survey respondents indicate that another important element of corporate social responsibility, which can create a specific value for the company are all kinds of investments in employees, including among others training. Half of the surveyed companies in Poland and three companies in Denmark do not encourage their employees to develop their skills and long-term career planning. Polish entrepreneurs, apart from the benefits of a systematic approach to the training of employed employees, do not see the need to encourage them to submit their initiatives.

Only four companies from the surveyed Poles, but 9 of the Dane surveyed, declare that in their company employees are encouraged to submit ideas to improve the functioning of the company.

In the 21st century in a knowledge-based economy, this can become one of the most important elements in building your market position. What's worse, only three surveyed companies in Poland, compared to 6 Danish, declare that their company has a flexible approach to working hours during the day and home work opportunities. Half of Polish entrepreneurs claim that their company has no such practice at all.

Even worse, our homegrown companies fall out against the Danes when we look at their competitiveness through the prism of the environment - influencing it: only two surveyed companies in Poland compared with 8

Danish enterprises agree that their business activities have an impact on the environment. natural. As many as 7 Polish respondents say that this does not affect their businesses. These ratios also reflect issues related to:

- saving energy thus reducing its impact on the environment;
- a policy to minimize waste;
- knowledge of environmental regulations directly related to the company's activities;
- carry out additional environmental actions.

Another group of data collected by the researcher, which may indicate that Polish companies are not fully aware of the role of the CSR model used in the enterprise, is an influence of social dialogue on their market position. Despite the fact that 9 of 10 surveyed Polish companies declare that their company has certain rules in place to provide reliable and complete marketing information, only two stated that they are engaging in dialogue with the local community about undesirable, controversial and sensitive issues related to their activities. Three companies stressed that this issue was rather or not strictly relevant to their business. Other companies decided that this issue did not concern their company. This situation is diametrically different than in Danish companies, where six companies declare reliable marketing information but also assumes an external dialogue on every topic. Looking at this type of phenomenon through the prism of market conditions, it is not difficult to make the case that the Danish model guarantees greater efficiency, which undoubtedly translates into a higher level of competitiveness.

In summary, the fact that as many as 8 Polish entrepreneurs consider their business to be socially responsible, does not necessarily mean in practice that they are at a similar level of development and use of CSR as a tool to build competitive advantage, like the Danes, where all surveyed companies submitted such a declaration. This difference is evident by identifying the reasons why Polish and Danish entrepreneurs would like their company to comply with CSR principles.

The two main motivations for the respondents from the two surveyed countries are as follows:

- 1) Polish side:
  - Perception of CSR as a positive standard - a norm that is worth observing, sets the framework for the action of contemporary companies and positively influences their image.
  - Willingness to act in accordance with its internal ethical standards.
- 2) Danish side:
  - The company's performance by its objectives, values, and vision.
  - Ensure the development of the company through the transparency of the operation.

Analysis of the results shows significant differences in awareness and attitudes between Polish and Danish respondents. In Poland, the use of CSR to build of competitive edge is far worse than in Denmark. Polish respondents appear to be well-versed in CSR and ethical marketing. They treat CSR as an important part of building a competitive advantage. Sadly, the results of the research, in fact, represent the self-esteem of the entrepreneurs, showing the unexpected satisfaction of native people in business with their involvement in CSR.

When we can look better at their motives, they do not take social responsibility as a factor in determining the market position in the long run and as a driver of innovation and forcing the company to improve communication and marketing standards. The information provided by the study shows that although they anticipate a change in this situation in the future, the current low consumer activity does not naturally force them to do so much CSR action they declare.

The proof of the legitimacy of this thesis can be the fact that in the strategies of the development, Polish enterprises often neglect the dialogue with the employees, which most often have direct contact with the consumer. In-depth and effective communication is a value that is difficult to overestimate. Special attention to this aspect can save enterprise from many problems. Inadequate communication is treated as the most common cause of irregularity and increasing problems.

It should be stated that in every organization, regardless of its size, the lack of clear, legible and confirmed messages creates unnecessary guesses, gossip, overinterpretation, and as a consequence may disturb the rhythm of the enterprise. Therefore, internal communication is a field that requires special attention - without inner harmony, a common position; it will not be possible to build relationships with external entities.

Likewise, the situation appears when we look at the lack of conviction in Polish companies that responsibility towards employees is a long-term investment that translates into concrete business outcomes and, most importantly, is one of the major challenges also for CSR. The importance of this aspect is very soon understood by the Danes, where practically all companies are trying to build their advantage based on systematic improvement of their employees' qualifications. In Poland, this situation is directly proportional, as we prefer to use the still fragile labor market by releasing less efficient workers, often only in our belief and instead employing new ones without investing in the development of human resources. It seems therefore that companies in Poland are currently operating in a market where the tools for determining the highest level of competitiveness lack in the tool, and the concept of CSR is lacking. This means that Polish companies identifying

themselves with respondents of the above research are seeking to position and promote the leaders and pioneers of social responsibility without seeing or using the most important and practical applications that will help them build competitive advantage in the marketplace.

#### **4. Conclusions**

Having analyzed the concept of Corporate Social Responsibility and based on the results of the research, it should be noted that the statement that Polish companies have not yet matured to include social and environmental issues in their businesses remains valid. Especially now, under the conditions of the instability of the modern economy and during the economic downturn, they should lead to a more responsible re-evaluation of the implemented economic model. The differences in motivation to implement CSR in building a competitive edge in both countries are significant. It was mentioned in results that Polish SMEs do not see a chance to secure a solid foundation for rapid development and to build a stable future on the base of CSR. Among other things, by making better use of resources, including staff and the implementation of activities for a broader corporate environment, CSR offers them the opportunity to find a new way to increase their competitiveness. Like many other companies, SMEs are focused on business. According to the research results, there are few SMEs in Poland in comparison to Danish firms, who do CSR because they see CSR as their mission. These companies are in the market, and they are known as social, economic companies. However, even when the enterprise is a social economic business, it can only be in the market when doing business. So the way to get more CSR into SMEs is to teach them that CSR is one of the ways for the company for doing more business.

Future research can focus on a longitudinal study of the relationship between CSR and competitive advantage in SMEs would be required to assess whether long-term competitive advantage can be achieved.

The results presented in this article may be the starting point for next research, but the application possibility is limited by the small sample of companies. In the next step, it would be interesting to look at the relationship between CSR and competitive advantage in SMEs in the aspects of which kind of activity of CSR may provide the best avenues for building a competitive edge.

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### Biographical note

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**II.**  
**MODERN TOOLS FOR BUSINESS**  
**AND NON-PROFIT ORGANIZATIONS**  
**MANAGEMENT**





# FORECASTING METHODS IN MODERN ENTERPRISE MANAGEMENT

**Dariusz Grzesica<sup>1</sup>**

## **Abstract**

*The aim of the chapter is to describe advanced methods of forecasting used in modern, high-tech enterprises. One of them – the ARMA model considers the strong dependence between the individual observations, used for prediction of time series, characterized by high dynamics of change. Here will be explained the process of selection of its parameters, and method design of the model. Second – harmonic analysis – uses, in turn, the cyclicity of the time series by which to construct the model describing the time series and what is the forecast for future periods. The first method is a group of parametric models, the second one is nonparametric, and both use the nature of a change of time series. The use of these methods will be shown by example.*

**Keywords:** *advanced forecasting methods, ARMA model, harmonic analysis.*

## **1. Introduction**

Forecasting is an important element in the functioning of a modern enterprise and one of the main elements in management. It allows predicting the state that will come in the near future and to guide action to achieve the greatest benefit, often financial. Forecasting methods were developed for a long time. Their selection was dependent on phenomena that were to be predicted. As the development of industry, economy, and forecasting methods changed, they were adjusted to the specific conditions of the phenomenon, and new ones were created, which successfully set future values, characterized by a small forecast error. In addition, the development of modern information technologies has accelerated the computational process, and made the methods that remained in the field of theory.

Forecasting usually takes the nature of a complex process. In order to make a correct forecast, it is necessary to conduct appropriate measures and predictive.

The concept of prognostic approach is understood as a series of actions aimed at determining the future value of the phenomenon under investigation.

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For this predictive process, you can select several stages, which will increase the accuracy of the indicated forecast, namely:

- preliminary data analysis;
- construction of the forecasting model;
- model evaluation;
- determination of the predictive algorithm;
- evaluation of forecast quality (Bielinska, 2007).

Preliminary data analysis allows the selection of an appropriate forecasting method. One of the first methods based on time series, which was used in the enterprise was the exponential smoothing. They are identified by historical patterns, trends, or size of the seasonal and extrapolation of these patterns to future predicted values (Hirschey, 2009). The well-known is the Brown model. In 1944, Brown received the task to create a model for the detection of enemy submarines (Mills, 2011). The assignment of weights characterizes this model to the time series data. When the data is separated in time, the assigned weight disappear exponentially (Grzesica, 2015). For time series smoothing, in which there are random fluctuations, the Holt model is used. On the other hand, in the time series with the tendency of development, seasonal and random fluctuations the Winters model is used. The last two models are considered together as a Holt-Winters model.

The data used for prediction in the enterprise are temporary and persisted through the time series. Thus, it is possible to assign a variable at a specific point in time in which it was made, and the number of such variables to examine for a dependency that occurs between them.

Modern requirements for methods of forecasting are very high. They are taking into account the nature of the variable changes in the series and trying to read the reasons for these changes. In the information systems of the company, the modules for forecasting often used methods of exponential smoothing that considers the specific features of the time series, i.e., trend, seasonality, and fluctuations. More advanced methods, such as autoregressive and moving average models, can accurately contribute to determining future volumes with high predictability.

## **2. ARMA – forecasting models based on time series**

Data is recorded on the enterprise demand, sales volume, material requirements, purchases, or costs values, which are characterized by high dynamics of changes. In this regard, the use of exponential smoothing models does not give satisfactory results. ARMA models are well proven in similar time series as they reflect the dependencies that occur between variables in a different period. Their main characteristic is the fact that the value of the forecasted variable at

time  $t$  is a linear combination of values of the same variable from the previous periods  $t-1, t-2, \dots, t-p$  plus a certain value in a random component (Grzesica & Więcek, 2014). ARMA models consist of two groups:

- 1) AR – autoregressive models
- 2) MA – moving average models

The autoregressive AR model is as follows:

$$y_t = \varphi_0 + \varphi_1 y_{t-1} + \varphi_2 y_{t-2} + \dots + \varphi_p y_{t-p} + e_t \quad (1)$$

where:

$y_t, y_{t-1}, y_{t-2}, \dots, y_{t-p}$  – the value of the predicted variable at time  $t, t-1, t-2, \dots, t-p$ ,

$\varphi_0, \varphi_1, \dots, \varphi_p$  – model parameters,

$e_t$  – the rest of the model in period  $t$ ,

$p$  – the value of delay.

The model assumes that there is autocorrelation between the values of the predicted variable and its delay values in time (Dittmann, 2003). The problem of determining the autoregressive order  $p$  is important and not always easy to solve (Maciąg et al., 2013).

Regardless of the accepted model of auto regression for the process occurring at the enterprise are affected, to varying degrees, by a random factor. The method using the random factor is called the moving average model MA based on the assumption that the value of the variable in the predicted period will be equal to the arithmetic average of the actual data for the last several periods (Reszka, 2010). It is expressed as:

$$y = \Phi_0 - \Phi_1 e_{t-1} - \Phi_2 e_{t-2} - \dots - \Phi_q e_{t-q} + e_t \quad (2)$$

where:

$e_t, e_{t-1}, e_{t-2}, \dots, e_{t-q}$  – the rest of the model in period  $t, t-1, t-2, \dots, t-q$ ,

$\Phi_0, \Phi_1, \dots, \Phi_q$  – model parameters,

$q$  – the value of delay.

To achieve a greater fit of the model for a time series sometimes requires the connection of both (AR)  $p$  and (MA)  $q$  models in one autoregressive and moving average model called ARMA with parameters  $(p, q)$ . It is expressed by a formula:

$$y = \varphi_0 + \varphi_1 y_{t-1} + \varphi_2 y_{t-2} + \dots + \varphi_p y_{t-p} + e_t - \Phi_0 - \Phi_1 e_{t-1} - \Phi_2 e_{t-2} - \dots - \Phi_q e_{t-q} + e_t \quad (3)$$

Difficulties in building the ARMA model causes the selection of its parameters. For their correct definition, it is necessary to perform the following steps:

- identification;

- estimation;
- verification.

In the identification process of the time series, a necessary condition for the application of ARMA model is to determine its stationarity, i.e., constant in time mean, variance, and autocorrelation of the studied series. For stationary time series testing the unit root, test developed by Dickey and Fuller in 1979, is used most often (Dickey & Fuller, 1979). At that moment, when the level of significance of the parameter for the studied time series is higher than 0.05, then we are dealing with the non-stationarity of the series. In order to eliminate that condition, a differentiation method is used, namely the calculation of further differences according to the formula:  $\Delta y_t = y_t - y_{t-1}$ . It is used until the time series is stationary (in practice no more than three times). Alternatively, the Schwarz's (Schwarz, 1978), Akaike's (1974) or Hannan-Quinn (1979) information criteria can be used. In case of removing non-stationarity from the time series, the ARMA model is expanded to ARIMA ( $p, d, q$ ) (Autoregressive Integrated Moving Average), Containing parameter  $d$ , which is equal to the number of time series differentiation processes. The parameters  $p$  and  $q$  are determined from autocorrelation and partial autocorrelation.

The process of model estimation is to determine its parameters ( $p, d, q$ ). This can be done using the method of least squares, a method of maximum likelihood or using the equations of Yule – Walker (Box & Jenkins, 1983). The model parameters are determined based on ACF autocorrelation (*Autocorrelation Function*) and PACF partial autocorrelation (*Partial Autocorrelation Function*). This is done using the Box-Jenkins method (Box & Jenkins, 2015). The farther into the past, the smaller the influence of the time series variables exerts on the present.

Verification of an ARIMA model is performed through the study of the autocorrelation of the residues of the model, i.e., the difference between the values of the accepted model, and the actual. The model shows no autocorrelation of residuals in the case when the coefficients are not significantly different from zero. Otherwise, it is necessary to choose the model parameters again.

### **3. Harmonic analysis – forecasting based on cyclical changes in the time series**

Harmonic analysis, called spectral analysis, is a method that uses the theory and application of Fourier series in respect of the studied phenomenon. Most of the studied phenomenon covers more than a year. This method is widely used in astronomy to study stars and in chemistry to study the chemical

composition of substances. There are two conditions which occurring together or separately allow the application of spectral analysis:

- the studied period is more than one year;
- a sufficiently large amount of data enables the cyclicity of the time series to be identified.

The second condition allows the study of time series for the period less than one year. The question remains, how short the period may be possible to use spectral analysis. It seems that there is no limitation. The only limitation is the accuracy of the forecast achieved with the help of this analysis. It can be concluded that as a result of large amounts of data, cyclicity is always present, in greater or lesser degree. Therefore, the application of harmonic analysis for forecasting purposes in the enterprise is justified, given the fact that a significant part of the processes taking place inside and in the closed environment of the enterprise has a periodic character. This periodicity may be associated with the seasons (seasonality) or certain days of the week (the syndrome of the day – for example, the beginning and the end of the week). Sometimes the cyclical nature appears at intervals difficult to explain for the prognostician. This does not mean, however, that it does not occur.

Harmonic analysis of time series is a kind of analysis in which a discrete Fourier transform (DFT) transforms a time series into a frequency domain. It consists of building a model in the form of the sum of the so-called harmonics, i.e., sinusoidal and/or cosinical functions of a given period (Zelias et al., 2003). The first harmonic has a period equal to the duration of the study period, the second – a half of this period, the third – one-third of it. In the case of  $n$  observations, the number of all possible harmonics is  $n/2$ .

A condition for the application of harmonic analysis is the determination of the spectral density function (spectrum), which allows to identify the harmonic structure of the time series and to determine the impact of the individual components of the formation process variance (Talaga & Zieliński, 1986). Spectrum is represented in a limiting way, where the abscissa axis represents the periods or frequencies and along the ordinate axis an estimate of the spectral density function.

To build the model based on the spectral analysis the following formula is used:

$$y_t = \alpha_0 + \sum^{n/2} \left( \alpha_i \sin\left(\frac{2\pi}{n} \cdot i \cdot t\right) + \beta_i \cos\left(\frac{2\pi}{n} \cdot i \cdot t\right) \right) \quad (4)$$

where:

$i$  – number of harmonics,

$\alpha_0, \alpha_i, \beta_i$  – model parameters.

The model is applied at the moment of occurrence of fluctuations around a constant average level, represented by parameter  $\alpha_0$ . In the case of trend, a formula is applied:

$$y_t = f(t) + \sum_{i=1}^{n/2} \left( \alpha_i \sin\left(\frac{2\pi}{n} \cdot i \cdot t\right) + \beta_i \cos\left(\frac{2\pi}{n} \cdot i \cdot t\right) \right) \quad (5)$$

where:

$f(t)$  – trend function.

The model parameters are determined based on the least squares method in accordance with the formulas:

$$a_0 = \frac{1}{n} \sum_{t=1}^n y_t \quad (6)$$

$$a_i = \frac{2}{n} \sum_{t=1}^n y_t \cdot \sin\left(\frac{2\pi}{n} \cdot i \cdot t\right), \text{ for } i = 1, \dots, \frac{n}{2} - 1, \quad (7)$$

$$b_i = \frac{2}{n} \sum_{t=1}^n y_t \cdot \cos\left(\frac{2\pi}{n} \cdot i \cdot t\right), \text{ for } i = 1, \dots, \frac{n}{2} - 1, \quad (8)$$

where:

$a_0, a_i, b_i$  – estimates of the parameters  $\alpha_0, \alpha_i, \beta_i$ .

The longer the time series, the greater may be the number of harmonics. For latest harmonic with number  $n/2$ , parameter  $a_{n/2}$  is always zero, and the parameter  $b_{n/2}$  is determined by the formula:

$$b_{n/2} = \frac{1}{n} \sum_{i=1}^n [y_t \cos(\pi t)] \quad (9)$$

To determine the  $j$ -th harmonic and the contribution that a given harmonic influences on the variance of the predicted variable, the following formulas are most commonly used:

$$\omega_i = \frac{a_i^2 + b_i^2}{2\sigma^2} \quad \text{dla } i = 1 \dots \frac{n}{2} - 1 \quad (10)$$

$$\omega_i = \frac{a_i^2 + b_i^2}{\sigma^2} \quad \text{dla } i = \frac{n}{2} \quad (11)$$

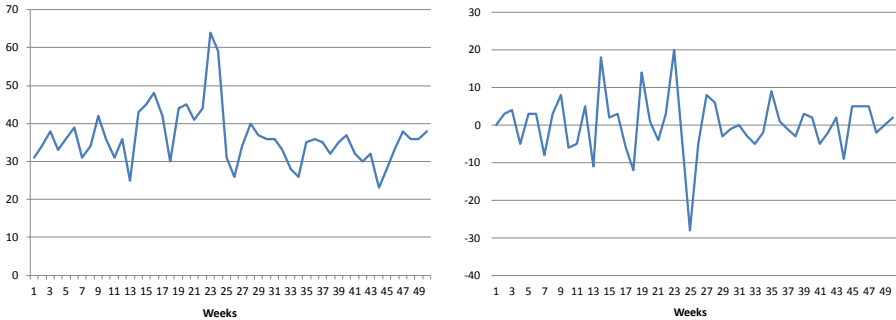
where:

$\sigma^2$ - variance of forecasted variable after a preliminary exception trends.

## 4. Verification of ARMA models and spectral analysis on the example of the number of orders in an enterprise

### 4.1. Forecasting based on ARMA model

Model and forecast based on real data coming from the forwarder enterprises, which is the number of orders realized in the process of cargo flow will be presented. Data taken from 2016, recorded 50 observations that were included in weekly periods is shown in Figure 1.



**Figure 1.** Number of orders in the forwarding company, a) non-stationary, b) stationary

In this example, 48 observations will be used to build the model, while the last two will be used to verify the prediction.

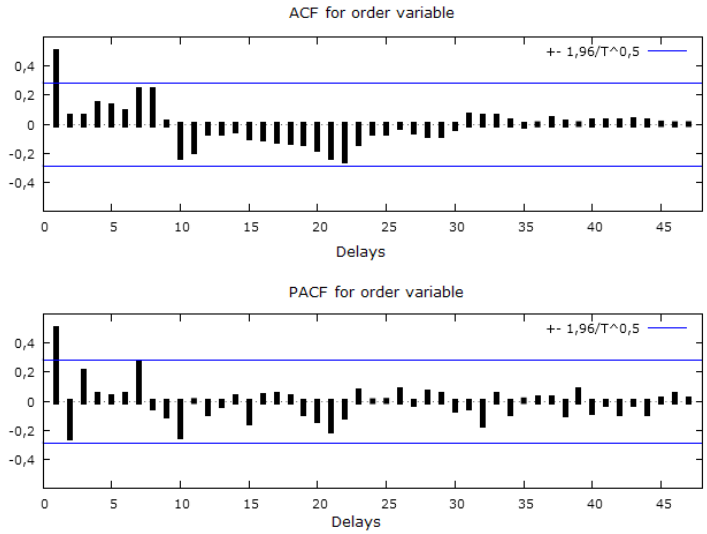
The first step in building the ARMA model is to check the stationarity of the time series. The calculated value of statistics of an Augmented Dickey-Fuller test (ADF). For the non-stationary series,  $p = 0.6318$  and is greater than the critical value for the assumed significance level of  $p = 0.05$ . Thus, a time series of differentiation was made to eliminate the trend. The value of the ADF statistics is 0.00000967, and therefore the series is stationary.

In Fig. 2 shows the autocorrelation and partial autocorrelation of the studied time series. As in the case of autocorrelation and partial autocorrelation shows that the first collection of delay significantly affects the explanation of the variability of the time series; therefore, the parameters of the ARMA model was accepted at the level  $p = 1$  and  $q = 1$ . The forecast is thus determined based on the model ARIMA (1, 1, 1), following the formula (3).

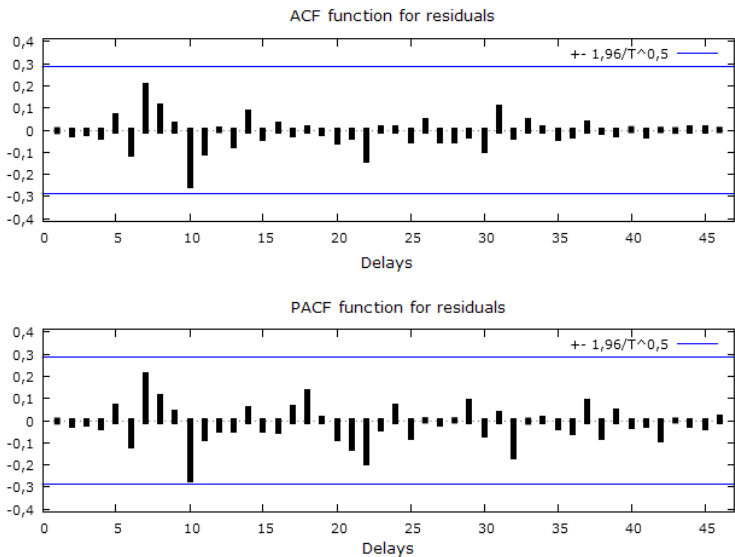
The model is presented as follows:

$$Y_t = 0,4948Y_{t-1} - 1e_{t-1} \quad (12)$$

Validation of the ARMA model is through the study of the autocorrelation of the model residues. The model shows no autocorrelation of residuals in the case when the coefficients do not differ significantly from zero (Figure 2).



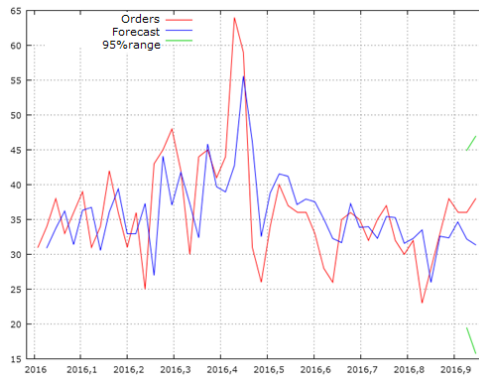
**Figure 2.** Autocorrelation (ACF) and partial autocorrelation (PACF) function



**Figure 3.** Autocorrelation (ACF) and partial autocorrelation (PACF) of residuals



In Figure 3 the graph shows no autocorrelation of the residues. In this regard, it is possible to construct forecast for future periods. Using the ARIMA (1, 1, 1) model, the forecast is as shown in Fig. 4. Of the 50 observations, 48 were taken to build the model, while others will serve as verification of the forecast.

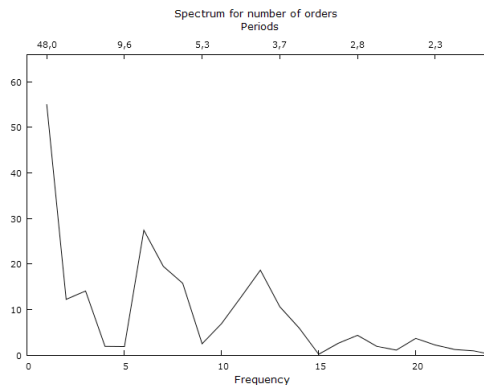


**Figure 4.** The real data with the model and forecast

Empirical data show great variability. It can be noted that the model well reproduces the real data and the forecast for the next period are close to real data.

#### **4.2. Forecasting based on spectral analysis**

The basis of harmonic analysis is to examine if the time series contains cyclical changes. For this purpose, a periodogram which is designed to detect cyclical fluctuations is used. Periodogram showing the number of orders is shown in Figure 5.



**Figure 5.** Periodogram of number of orders

On the basis of the periodogram, it can be concluded that the time series has cyclic fluctuations. Accordingly, harmonics will be designated in accordance with (10) and (11). The harmonics values that have the greatest share in the explanation of the series are shown in Table 1. The combined share of individual harmonics in explaining the volatility of the time series is almost 72%.

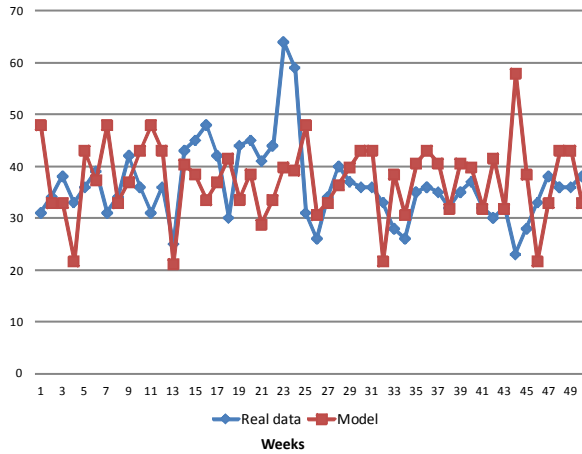
**Table 1.** Harmonics used to build the model

Number of harmonic	Designation	Period [week]	Share in the explanation [%]
6	n/6	8.00	6.38
7	n/7	6.86	8.01
8	n/8	6.00	6.22
11	n/11	4.36	11.34
12	n/12	4.00	15.46
13	n/13	3.69	12.17
14	n/14	3.43	6.34
17	n/17	2.82	6.02

Using the harmonics from Table 1 and the model parameters in the process of transforming the time series into the frequency domain, the model was constructed in the form:

$$\begin{aligned}
 y_t = & 36,25 - 2,484 \cdot \sin\left(\frac{2\pi}{48}t\right) - 1,073 \cdot \cos\left(\frac{2\pi}{48}t\right) + 2,2 \cdot \sin\left(\frac{2\pi}{48}t\right) + 2,087 \cdot \\
 & \cos\left(\frac{2\pi}{48}t\right) - 1,84 \cdot \sin\left(\frac{2\pi}{48}t\right) - 1,938 \cdot \cos\left(\frac{2\pi}{48}t\right) + 3,596 \cdot \sin\left(\frac{2\pi}{48}t\right) - 0,3 \cdot \\
 & \cos\left(\frac{2\pi}{48}t\right) - 4,208 \cdot \sin\left(\frac{2\pi}{48}t\right) - 0,167 \cdot \cos\left(\frac{2\pi}{48}t\right) + 3,248 \cdot \sin\left(\frac{2\pi}{48}t\right) - 1,848 \cdot \\
 & \cos\left(\frac{2\pi}{48}t\right) - 1,729 \cdot \sin\left(\frac{2\pi}{48}t\right) - 2,071 \cdot \cos\left(\frac{2\pi}{48}t\right) + 0,784 \cdot \sin\left(\frac{2\pi}{48}t\right) + 2,508 \cdot \\
 & \cos\left(\frac{2\pi}{48}t\right)
 \end{aligned} \tag{13}$$

On the basis of formula (13) the model, along with a forecast for two future periods (Fig. 6) was created.



**Figure 6.** The real data with the model and forecast

## 5. Evaluation of forecast accuracy

The accuracy of the forecast on the basis of relative and absolute forecast errors (Table. 2) use ARMA models and spectral analysis will be considered.

**Table 2.** Indicators of forecast accuracy

Method	Forecast period	Real data	Forecast	Mean Absolute Error (MAE)	Mean absolute percentage error (MAPE)
Spectral analysis	49	36	43.079	7.079	19.663
	50	38	32.907	5.093	13.402
ARIMA model (1,1,1)	49	36	32.19	3.81	10.583
	50	38	31.37	6.63	17.447
ARIMA model (1,1,2)	49	36	33.29	2.71	7.528
	50	38	33.44	4.56	12

Forecasts based on ARMA models and spectral analysis give forecasts at the accuracy level of 7.5 – 20%. For ARMA models the accuracy of the forecast depends on the skill and experience of the forecaster. The forecast for the first period for the ARMA (1, 1, 1) model is more than 10%, while for ARMA (1, 1, 2) model – 7.528 %. For the same period, the forecast based on spectral analysis is 19.67%. The greater predictive error for spectral analysis is probably due to insufficient lengths of time series (low number of observations) or the period in which the data are recorded (weekly periods).

The model would therefore not capture cyclical changes, which might be visible in shorter or longer periods of time.

## 6. Conclusions

Forecasting methods based on time series in the company should include the evaluation and extraction of the deterministic part of the series (trend, seasonality, randomness, cyclicity). In this regard, methods of modeling and forecasting time series must be properly chosen.

ARMA models are quite good at modeling variables that are characterized by high dynamics and strong correlation between observations. These observations provide some information about the evolution of successive series changes and thus allow for the prediction of high accuracy. The researcher's experience, which is selected based on many forecasts, plays a major role in the selection of parameters.

Models based on harmonic analysis, in turn, are excellent to use in time series characterized by cyclical changes. The spectrum shows that the series has cyclical fluctuations, which gives the possibility of modeling and forecasting future values based on harmonics that significantly influence the explanation of changes in time series.

Both methods are advanced, the computational process is very complex, and the estimation of some parameters is based on the experience of the forecaster. However, application of both methods seems to be necessary regarding the growing needs of modern enterprises in the field of forecasting.

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# SOCIAL MEDIA AS A SOURCE OF CUSTOMER KNOWLEDGE – POTENTIAL AND LIMITATIONS

**Sebastian Kopera<sup>1</sup>**

## **Abstract**

*Social media is gaining popularity as a rich and important source of knowledge about customers and markets. However, tourism organizations utilize its potential only to a limited degree. The goals of the presented text are: to explain this potential and to analyze barriers to the acquisition of customer knowledge by tourism organizations. A literature review will be applied along with the analysis of empirical data from one tourism institution and six business companies, to achieve those goals.*

**Keywords:** *knowledge acquisition, social media, customer knowledge, tourism industry.*

## **1. Introduction**

Almost 20 years ago Pine and Gilmore noticed a growing importance of experience as a basis for customer value creation (Pine & Gilmore, 1998, p. 95). Observation of contemporary markets, particularly in service sectors, confirms that this trend has grown in importance since then. Adopting its logic means bigger than in the case of products or services adjustment to customers' needs and orientation rather toward impressions, than simple features and benefits. Customer experience transcends frames of services and products – although they remain a basis for value creation, on their own, they suffice no more to satisfy the customer. Experiences are “complex combinations of products, services, spaces, and information” (Brown, 2008, p. 92) and as such, they have to be created and developed. For this reason, many sectors traditionally classified as “service sectors” reorient their design activities from services to experiences (Sorofman, 2014; Verhoef et al., 2009). This transition is easy to observe in tourism, where “tourist experience” becomes a reference point for innovations in various fields (Dubé, Le Bel & Sears, 2003; Neuhofer, Buhalis & Ladkin, 2015; Wang, Park & Fesenmaier, 2012). Orientation toward experiences rather than toward services or products potentially helps enterprises differentiate in the eyes of their customers.

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At the same time their design and development is much more complex and demanding, and above all requiring much more information about customers, their needs, habits, and preferences. An important source of this information is nowadays a digital space, including social media. Their growing significance as a source of customer knowledge is a result of their popularity among users, as well as changes in patterns of digital content consumption and production which social media enable and imply (Mayeh, Scheepers & Valos, 2012; Perlberg & Seetharaman, 2016; Quartz, 2016).

Perceiving social media as a source of business knowledge (defined as any important information that can be utilized in internal business processes), also about a customer, is winning popularity among practitioners and researchers, which reflects in growing number of publications in this field (Akehurst, 2009; Kopera & Najda-Janoszka, 2016; Kopera, 2009; Li & Wang, 2011). It does not mean however that the issue is well recognized and understood. Particularly limited attention is devoted to the understanding of acquisition process determinants.

The goals of the presented text are: to explain this potential and to analyze barriers to the acquisition of customer knowledge by tourism organizations. A literature review will be applied along with the analysis of empirical data from one tourism institution and six business companies to achieve those goals.

## **2. Social sources of knowledge about customers and market**

There are many ways of acquiring information about customers from a digital space. Some of them have been described by Rowley (Rowley, 2002, pp. 503–504), who included in this group i.a.: information provided by customers in response to a company request (e.g., in the form of a survey analyzing customer satisfaction), voluntarily provided when engaging in the virtual community, transactional data, customer search path, cookies and site visit logs.

In this context, it is worth differentiating two types of data and information which source is a customer and his/her digital activity. The first one consists of the content which is consciously and purposefully generated by Internet users, particularly within social media. It includes all types of UGC (User Generated Content) in the form of posts, comments, opinions, likes, and shares. From a marketing point of view UGC is often classified as eWom – electronic Word of Mouth (Bronner & De Hoog, 2011, p. 15). The content of this type is usually easily accessible for external entities, enabling a better understanding of customer preferences and needs. It can be created from their initiative or – along with the Rowleys' suggestions – in response to the initiative of a company, which wants to enrich its customer knowledge.



This type of content is known as an active digital footprint (Madden, Fox, Smith & Vitak, 2007, p. 4).

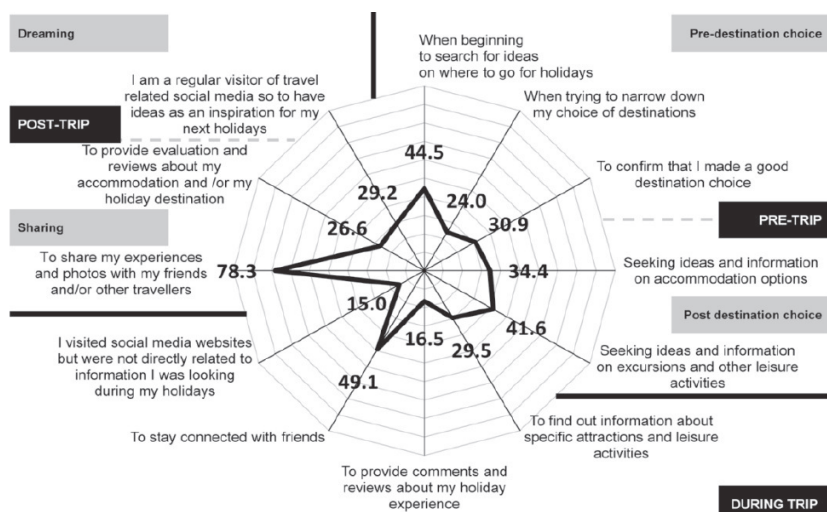
The second type of digital, customer-related content is generated as a byproduct of a customer activity in a digital space. The user does not create it purposefully, and in most cases, he or she is not aware of its existence. This category includes, e.g., website visit logs, mobile applications' logs, search logs, transactional data in payment systems, a trace of mobile devices generated within telecom infrastructure or mobile operating systems. All those forms of digital content sum up to a passive digital footprint (Madden et al., 2007, p. 3).

The difference between both types of the digital footprint reflects not only in purposefulness and consciousness of data created by the users but also in their third part accessibility. The active digital footprint is usually generated in open information systems, particularly in social media. Access to some portion of it is sometimes limited by user's privacy settings or access settings of virtual communities. However, most of it remains open and fully accessible to all interested, including enterprises looking for customer knowledge. Being aware of their active footprint users have the opportunity to monitor and manage their virtual presence as well as a scope of data they make available online, what is significantly tougher in the case of a passive digital footprint. Law strictly regulates the access to data being collected and stored in a passive way, and sometimes requires additional consent from the user (a good example of such consent is acceptance of cookies policy or consent to access to mobile device resources for mobile application which must be declared by the user when installing this app on the device). However, the act of granting consent does not make the process more transparent. Access to this kind of data is usually limited by and to its administrator, although – under certain conditions – it may also be granted to third parties. Enterprises from sectors traditionally collecting a large amount of passive customer data (e.g., insurance, finance, including credit card operators, IT and telecommunication) which seized opportunity and engage in development of advanced analytical systems (data warehouse and Big Data solutions) what enables them development of data-driven innovations (OECD, 2015, pp. 21–26). The passive digital trace is also an opportunity to public administration, which is traditionally equipped with a massive amount of citizen data.

The presented text will concentrate on the active one, created intentionally by users in a digital info-space, particularly in social media domain while appreciating the value and importance of the passive digital footprint for customer knowledge creation. This environment not only gains importance as an environment of purposeful and conscious human information behaviors but also its characteristics facilitate and encourage content generation, publication

and sharing. Content, which is – as mentioned above – in most cases open and accessible to external entities, also for those who cannot afford to buy data from external commercial and closed sources. Such a situation is typical for a vast majority of tourism enterprises what results from reasons explained i.a., in (Najda-Janoszka & Kopera, 2014).

Customer information behaviors in tourism social media domain are often analyzed in the context of a travel process (Fotis, Buhalis & Rossides, 2012; Gretzel & Yoo, 2008; Kennedy-eden & Gretzel, 2012; Tanti & Buhalis, 2016; Xiang, Wang, O’Leary & Fesenmaier, 2015), including three main stages: pre-trip, during trip and post-trip. Adopting this perspective Fotis et al. (2012) researched utilization of social media by tourists (Figure 1).



**Figure 1.** Utilization of social media within the travel process with indication of open creative activities<sup>2</sup>

Source: own elaboration based on (Fotis et al., 2012, p. 18).

The presented results show that tourists avidly use social media at all stages of their travel. In most cases, they use social media as sources of knowledge (in a broad sense) and tools for its acquisition.

Nevertheless, across the whole process, there are some creative activities, which result in the publishing of UGC. Among those “creative” activities the

<sup>2</sup> Open creative activities are those, through which tourists create content, and then publish it in an open social media domain. Activity defined as content generation may appear also in other situations, e.g. when staying connected with friends during a trip, but in this case content is usually more private and addressed to a limited number of receivers, what decreases its potential value and accessibility for external observer (e.g. tourism enterprise).

most popular are sharing travel experience and photos with friends and other travelers (often members of virtual communities). Such activities are typical for over 78% of tourists (Fotis et al., 2012, p. 18).

Content purposefully generated by customers can be a rich source of knowledge about their preferences, habits, expectations, or earlier experiences. If additionally, consider an interactive nature of social media, and supported by this environment crowdsourcing, it is easy to understand a unique value of social media as a learning space for enterprises. At the same time, an observation of micro and small tourism enterprises, as well as tourism institutions, indicates that this potential of social media is neither commonly recognized nor utilized in spite of a high popularity of social solutions for private purposes among tourism managers and employees. The subsequent sections are aimed at shedding some more light on problems and obstacles to wider utilization of social media as the customer knowledge source for tourism enterprises and institutions.

### **3. Obstacles to utilization of knowledge from social media**

Utilization of knowledge from any source – social media included – covers at least two common subprocesses: knowledge acquisition (often in the form of important information) and knowledge application to solving business problems. Obstacles to the utilization of social media customer knowledge in tourism business practice have not been a popular topic among researchers. Those issues are very novel and still, require many questions to be answered. Pioneering research in this field has been conducted in the form of case studies in tourism institutions by the author of this paper (Kopera, 2017) as well as selected tourism enterprises (Kopera & Najda-Janoszka, 2016).

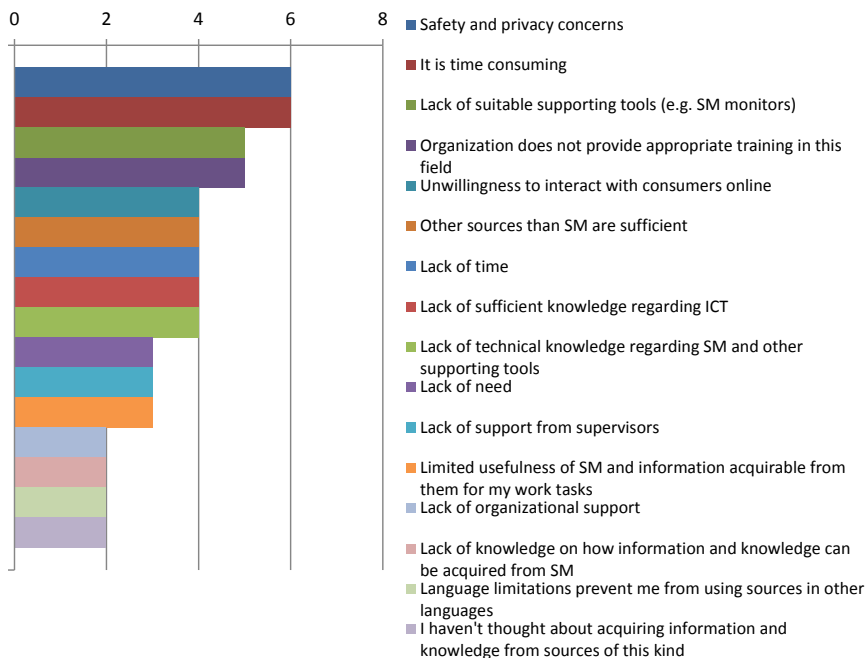
The first of those studies have been conducted in a regional tourism organization of Małopolska (MOT) – an association responsible for the promotion of the region and its tourism offer, managing regional information system, as well as support to tourism development in Małopolska region (<http://www.mot.krakow.pl>). It is worth noticing that regional tourism organizations – including MOT – are the main and the most important entities integrating activities of regional administration and tourism business in destinations and promoting their tourism offer in Poland and abroad.

Data for this case study was acquired through a survey among all the MOT employees who dealt with co-creation and promotion of regional tourism offer. Additionally, unstructured interviews with selected employees were conducted.

The applied research procedure enabled identification of the most significant problems hindering utilization of social media knowledge sources at MOT (Figure 2).

Most of the researched group indicated in the first place the time-consuming character of particular information search in social media as well as privacy and safety concerns. Both problems create a coherent picture of the existing problems together with the following: lack of suitable supporting tools (what resulted in manual, time-consuming information search). As well as the lack of social media and IT knowledge, what may partially explain the absence of IT tools supporting and automating the acquisition of knowledge from social media.

At the same time, employees were aware of their limitations and expected organization and to support them, e.g., in the form of a relevant training. Unfortunately, they didn't receive such support, what could result from a lack of IT competencies among managers, as it was revealed during in-depth interviews. Managers had little understanding of the importance of social media as a tool supporting their employees at work, and consequently, they were not ready to create more encouraging and supporting environment or provide relevant training in this field.



**Figure 2.** Obstacles to utilization of social media knowledge sources by MOT employees

The second research covering the subject issues was conducted in the form of a series of case studies in six micro enterprises representing various tourism sub sectors. The main source of data were semi-structured interviews with managers. One of the questions asked during interviews referred to obstacles that hampered utilization of social media as a source of knowledge. The number of received answers varied from 3 to 4.

Among the most important problems identified by the interviewees were those referring to the quality of social media sources and content<sup>3</sup> and difficulties in verifying reliability, neutrality, and value of the content found in this environment. The situation was worsened by the fact that social media content was often generated anonymously and there was no way to verify the reliability of the content based on the reliability of the author (Bronner & De Hoog, 2011, p. 15). It led to a limited trust in social media content and sources. It is worth noticing, that reliability concerns were not only a subjective perspective of the interviewed managers. The issue of limited reliability of a significant portion of social media content is being addressed even by social media platforms including the most popular Facebook<sup>4</sup> (Heath, 2016).

However, the problem with objective quality and reliability of social media sources is not the only one to blame for difficulties with information searching and lack of trust in social media sources. Probably the other side of this problem is limited digital literacy of the users in this new and dynamic environment. Digital literacy covers not only IT competencies but also competencies regarding creation, processing and acquisition of information in a digital environment (UNESCO IITE, 2011, p. 1). Low digital literacy results in difficulties in evaluation of various types of social media sources and content as well as in the feeling of being overloaded with information and increased problems with selecting valuable, useful content. All those problems were signaled by the managers during interviews, what may indicate digital literacy issues in this group.

In most cases, interviewees – just like MOT employees from the previous case study – did not use any advanced tools automating content searching on the Internet what – again – could be potentially attributed to low digital competencies. 1/3 of this group admitted that they lacked competencies regarding social media and acquisition of knowledge from this environment.

It is important to mention an exploratory and initial character of both types of research – concerning MOT and tourism enterprises, what does not legitimate any generalization.

At the same time, they provide a significant cognitive value and convey an input to the understanding of determinants of acquisition of knowledge

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<sup>3</sup> By some interviewees sources and content were treated as synonyms.

<sup>4</sup> Retrieved from <http://newsroom.fb.com/news/2016/12/news-feed-fyi-addressing-hoaxes-and-fake-news/>

from social media. They also constitute a foundation for further, more representative research in this field.

#### **4. Conclusions**

Social media is becoming increasingly popular environment among Internet users, who spend their time by generating a large amount of various content. At the same time changes may be observed as far as information behaviors of Internet users are concerned. For many of them, social media is becoming the first source of information. This tendency can be observed in the Quartz research cited earlier in the text. It also reflects in the recent decision of the big, traditional content providers like CNN, or The New York Times to use Facebook as a distribution channel for their content (Perlberg & Seetharaman, 2016) despite a risk of weakening their channels. So, on one hand the amount of social media content (including UGC) is growing exponentially, part of which may have a significant value for enterprises. On the other hand, young people who already work or soon will, transfer their habits from private to professional environment bringing social media and related information search and consumption behavior to their workplaces. In this context, it seems obvious that social media environment is going to earn even more importance as the customer information source in the nearest future.

However, this process is not going to happen automatically. People using social media in private life are not always capable of transferring their information behaviors to the business environment, where the goals and effectiveness criteria are different. What is more, an effective and efficient search in social media domain requires, on many occasions, application of automated tools like, e.g., media monitors, which are usually not popular among private users. It means that the key success factor for wider utilization of social media as a customer knowledge source is the growth of digital literacy among employees and managers of tourism businesses and institutions. In this context, an important role to play, have organizations themselves as well as their leaders. In the first place, it is necessary to create among employees an awareness of importance and value of social media as the source of knowledge and equip them with relevant competencies through appropriate training. The subsequent step should cover encompassing social media sources into an ecosystem of organizational learning and knowledge management, so the important information acquired from an environment could be later distributed and applied across the organization.

Realization of both steps should significantly contribute to the improvement of many internal processes, including those related to designing, developing and delivering new customer value in the form of a unique experience.

The above discussion was grounded on the assumption that social media content was not analyzed in a “mass” context, which is a typical perspective of Big Data approach. In this “mass” approach data originating from various sources (including social media) adopt a form of a “data cloud,” which – due to its size and diversity – transcends capabilities of conventional data processing systems (Kachniewska, 2014, p. 36).

Big Data opens enormous opportunities regarding the acquisition of information and building knowledge upon it, that can be later utilized in innovation processes, leading to DDI – Data Driven Innovations. This kind of innovations is considered by OECD a new source of economic growth and social development (OECD, 2015, p. 23). However, the actualization of this potential requires not only a proper technology for data extraction and analysis but also relevant IT competencies, what constitutes a significant implementation barrier in the environment of micro and small enterprises (Kachniewska, 2014, p. 49) that dominate tourism industry. Lack of both, typical for tourism industry not only in Poland (Najda-Janoszka & Kopera, 2014) but also in other countries (Mistillis & Gretzel, 2013), hampers acquisition and application of knowledge from social media as a mass data source. When adding methodological issues related to the practical implementation of Big Data analytics on top of that (Baggio, 2016), it seems barely possible that problems related to utilization of this approach in the tourism industry will be solved in a short perspective.

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# THE MEANING OF EXECUTIVE CONTROLLING IN BUSINESS MANAGEMENT - RESULTS OF THE RESEARCH SURVEY

*Janusz Nesterak<sup>1</sup> and Olga Malinowska<sup>2</sup>*

## **Abstract**

*During several years of research on the state of controlling in Poland, attention was paid to several areas of how some modern enterprises are functioning. One of them is executive controlling, which should be considered as a strong and innovative determinant influencing the development of management methods in a modern enterprise. One of the fundamental requirements of executive controlling is the need to move from a functional operation system to an approach utilizing process management of an enterprise. The advantage of such a solution is the ability to quickly diagnose and continuously coordinate problems at their place of origin. The aim of this article is to present selected results of research on executive controlling issues, which were carried out on a group of 266 companies operating in Poland.*

**Keywords:** *executive controlling, controlling, management.*

## **1. Introduction**

In the current economic environment, one of the most interesting issues is the implementation of the principles and tools of executive controlling. They allow considering of controlling effective and innovative instrumentation in the process of organization and management of a modern enterprise. The fundamental requirement of executive controlling is the need to move from a functional operation system to an approach utilizing process management of an enterprise. The advantage of such a solution is the ability to quickly diagnose and continuously coordinate problems at their place of origin. Since executive controlling involves practically all employees of the company, constant monitoring of the created procedures is necessary. This allows direct observation of changes in the company and allows quick response in the event of deviations. This is facilitated by the electronic information exchange system, introduced as part of the executive controlling system,

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which significantly contributes to the optimization of business processes in the enterprise. Clear procedures guarantee a clear and temporary access to management information.

The aim of this article is to present selected results of research on executive controlling issues, carried out on a group of 266 companies operating in Poland.

## 2. Controlling in terms of the theory of organization and management

There is no uniform definition of controlling in the world literature. Different schools worldwide present different views, and numerous management authorities admit they are helpless in trying to organize this concept. Preissler (1999) states that “everyone has their own ideas about what controlling or meaning means, but everyone thinks of something else.” The multiplicity of definitions also arises from the use of controlling in many different companies with different situations in an organization, finance, or any other business sphere. The fact that controlling can involve many functional areas also affects the multiplicity of concepts. One of the reasons for many different theories may be the ambiguity of the English word “to control.” To influence on shaping the term “controlling” to the greatest degree were Americans and Germans. In literature, the most often mentioned terms derived from these two schools (Table 1), while in Poland the guidelines of the German school predominate.

**Table 1.** Summary of selected definitions of controlling by American and German authors.

Author	Definition of controlling
USA	
Anthony (1988, p. 34)	Controlling is a management enhancement tool that guides your organization toward your goals, facilitates your competitive advantage, ensures effective implementation of your strategy, and achieving success.
Horngren (2008, p. 618)	Controlling is a method of collecting and using the information to support and coordinate planning processes and their control throughout the company. Controlling is the continuous improvement of all decisions made within the organization.
Kerzner (1989, pp. 224-226)	Controlling is a management process that includes certain steps of measuring economic values, serving to assess the degree to which goals are met, to identify the causes of deviations, to correct of bad trends and to exploit the beneficial ones.
Koontz, O'Donnell & Wehrich (1984, p. 549)	Controlling is a management function, the essence of which is the measurement and correction of tasks performed by subordinates, given the need to evaluate the objectives achieved.

## GERMANY

Bramseman (1990, pp. 47-48) Controlling is such a mindset of employees, which ensures full compliance with goals at all levels of the company. This is achieved through strong coordination of tools, know-how, appropriate planning, control and information systems.

Heigl (1989, p. 19) Controlling is appropriately designated tasks of enterprise management. He rejects the idea to identify controlling with control, noting that it is rather organization, motivation, coordination, direction, forecasting, planning and communication.

Horvath (2011, pp. 42-60) Controlling is a management subsystem that coordinates the planning, control, and delivery of information and thus supports the adaptation and coordination of the entire system. These actions are directed at managing the entire company because of the set goals, that is, to achieve certain effects.

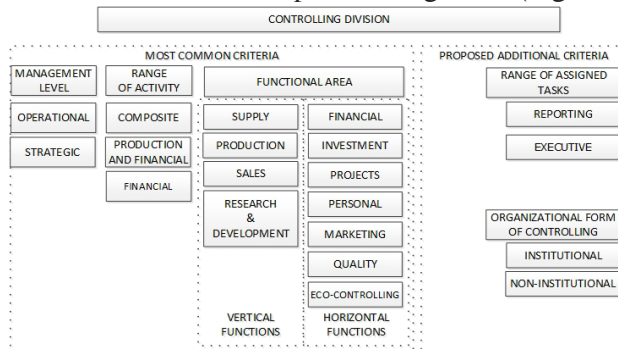
Weber (2001, pp.19-25) The purpose of controlling is to support the management of the company. It shows the three most important aspects of controlling: providing access to reliable information, enabled by fast-growing databases (1), a form of management that enables the company to achieve its goals (2) and coordinating all areas of business management, which facilitates the implementation of the strategy (3).

Vollmuth (2007, p. 15) Controlling is of super-functional importance. As a management instrument, it assists the company's leaders in making decisions. The essence of management is such planning, in which objectives are determined jointly by the management and members of the board. The effectiveness of this approach is achieved by constantly comparing the goals set with their implementation. The last vital element of controlling is the information system, which allows for quick detection of disturbances.

Ziegenbein (2004, p. 112) Controlling provides the company with methods and information in terms of work systems, including planning and control processes, as well as the support and coordination of these systems.

### 3. Executive controlling as an innovative management instrument

Sources provide many criteria that classify controlling. The most common criteria are levels, functions, and scope of management (Figure 1).

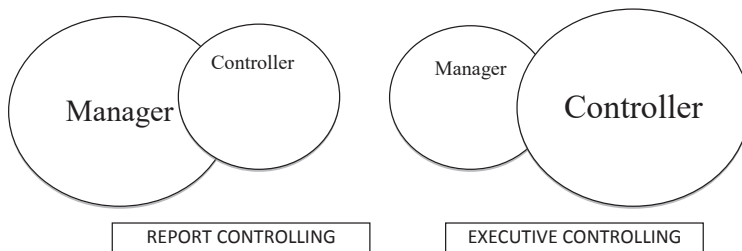


**Figure 1.** Selected criteria for division and types of controlling

Source: Nesterak (2015, p. 41).

Based on the foreign definitions of controlling presented above, as well as active observation of the transformation process taking place in companies operating in Poland, a new criterion of the controlling system is presented. The controller's scope of competence allows defining two of its types: report controlling and executive controlling. The first is an extended financial and management accounting system for the development of multi-dimensional material and financial reports, often used outside of national offices or branches. These reports are sent to corporate headquarters, where decision-makers use their findings to make decisions globally. However, this does not help to improve the way a company operates. Reporting controlling is especially the domain of large corporations, which impose on their Polish departments the obligation to produce various types of reports. The task of the controlling department is then practically the sole building of the information system, and the controller's scope of competence is small (e.g., Kokovixina, 2012; Lipych, 2012; Kes, 2003; Lichtarski & Nowosielski, 2006; Łapińska & Dynowska, 2010; Pietrzak, 2002; Tyrańska-Walas, 2001).

The developed form of controlling, i.e., executive controlling, assigns more ambitious tasks to the controller, thereby increasing the scope of his competence. The fundamental premise of controlling is the comprehensive optimization of the internal business processes that result in improved economic and financial results and are aimed at improving its competitive position in the market. This contributes to achieving the overriding purpose of the entrepreneur, which is the increase in the value of the enterprise. Controlling can be seen as a system that strongly supports managers at different levels, from top management to operational managers, in strategic, tactical and operational decision-making (Nesterak & Kowalski & Czerniachowicz, 2016, p. 40). Defining controlling as a way of managing an organization, aimed at improving its effects, allows to add to the definition of controlling the word "management." One of the goals of executive controlling is to strive to build a multidimensional system of support for management decision-making. Although executive controlling uses the full spectrum of information tools, it should not be treated as a system identical to accounting or reporting controlling. The analytical knowledge gained is primarily used to optimize the course of technological processes taking place in each functional area of an organization. As a result, executive controlling has a much broader scope of impact, since it affects both the basic and auxiliary processes in the enterprise. In addition, the controller receives here a very large scope of competence, including decision-making, which directly leads to the acquisition of managerial functions (Figure 2).



**Figure 2.** Executive controlling vs. report controlling

Source: Nesterak (2015, p. 47).

Authors controlling the future of controllers as a member of the chief executive bodies in companies, creates a natural consequence of the increase in knowledge, skills, professionalism and, in particular, the extension of competence (Holland-Letz, 2009, p. 11).

In executive controlling, the employees of the technology divisions play a greater role than in report controlling ones, as they are those who influence the outcome of their company's economic and financial performance to the greatest extent.

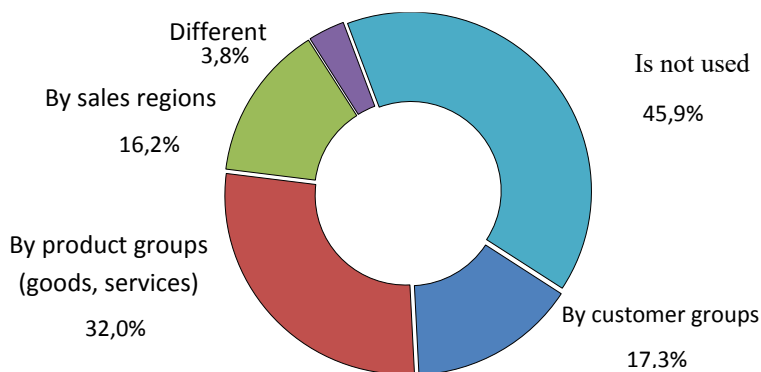
#### **4. Methodological notes, and criteria and selection of research objects**

A personal research was carried out in the years 2013-2015, the main goal was to gain knowledge, the progress degree of controlling in companies operating in the Polish market. When conducting a wide range of differentiated studies, a non-probabilistic sampling method was used, i.e., purposive sampling. In addition, to broaden the conclusions of the survey, the Delphi method was also used. The knowledge of enterprise executives, both chief executives and operational managers, was utilized. Also included were the guidance and opinions of external consultants supporting the controlling departments and the management of companies in the process of implementing and operating controlling. Micro, small, medium, and large enterprises participated in the study. Invited to participate were entities that were based in Poland, but also those that were branches of large foreign corporations, with management decisions taken outside the country. Of all the surveyed companies, 63.6% are companies with 100% national capital and 74.2% of at least 50% domestic capital. Foreign capital mainly finances the remaining companies, however, 19.5% of the total number of respondents engages only foreign capital. An interesting point of the respondents' characteristics is their sales market. More than 50.4% of entities earn revenue only domestically, and as many as 90.4%

of respondents earn at least 90% of revenue domestically. 16.9% of domestic entities account for less than half of turnover domestically. The largest share in the survey belonged to 126 service companies, which accounted for 47.4% of the total surveyed units, and to manufacturing companies, i.e., 109 entities (40.1%). The five sectors accounted for over 50% of the surveyed companies, including finance (13.5%), energy and heating (12.4%), construction (12.0%), chemicals (7.1%) and FCMG (6%). Over 46% of the surveyed entities indicate strong competition in the core business, with 73.5% offering products or services to a large number of customers. These are private entities (69.9%) and with over 15 years of business activity (65.0%). The structure of respondents in terms of the number of employees is more flattened. In the three largest groups, it is: 101-500 people (28.9%), over 1000 people (27.8%) and 10-100 people (26.3%).

## 5. Findings

This study presents selected results of the conducted research. One of them is the executive controlling -specific calculation of results, which enables obtaining useful, and above all, more reliable management information than that from the classical profit and loss account. Respondents were asked a question about the company's multi-level and multi-block accounting of the cost coverage margin. The results are presented in Figure 3. Nearly half of the cases (45.9%) don't use such accounting, which may indicate a lack of reliable information on the effectiveness of individual business segments of the companies as the lack of an analytical report makes it impossible to make the right operational decisions. On the other hand, the dominant counter-solution is to base the accounting on product groups, goods, and services (32.0%).

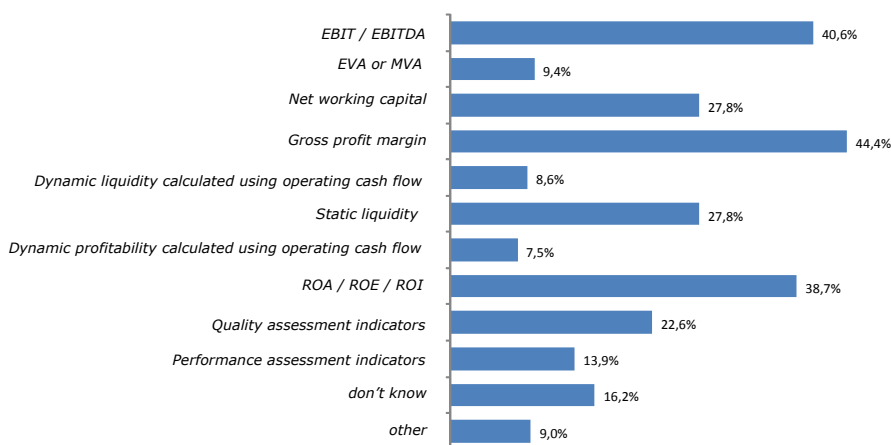


**Figure 3.** Utilizing a multi-level margin account for costs coverage



Key Performance Indicators (KPIs) support the company's achievement of management goals (Jabłoński & Jabłoński, 2011; Nesterak & Ziębicki, 2011; Skoczylas & Niemiec, 2016; Skoczylas, 2013). They are important for building a company that is result-oriented and provide objective feedback to employees about the effects, cost, and quality of their work. At the same time, KPIs are a control tool for managers and allow for efficient decision-making. They support the optimization of business processes, which is the key task of modern controlling management. Figure 4 presents the results of the study in this area. Respondents indicated profit margins as the most important KPI used in companies (44.4% of entities). The next four are based on traditional, statutory accounting. Surprisingly low is the share of added value-based measures, which were indicated only by 9.4% of respondents.

Dynamic measures based on cash flows, which are better indicators than classic, static indicators of the economic condition of the company, are also used in a minor degree.



**Figure 4.** KPIs used in an enterprise

The research has further confirmed the view that the most commonly chosen methodology supporting enterprise management processes is the Balanced Scorecard, which is also indicated by those who are preparing for the formalization of controlling tools.

Interesting conclusions are provided by the data presented in Table 2, which outlines the ways employees work when they do not find a procedure that solves a problem in the company. Employees most often ask their direct supervisor (34.5%), i.e., almost twice often than their process supervisor (17.7%) or associates (15.0%). The high indicator means low executive

controlling culture in the surveyed companies. This is also supported by other, relatively low indicators referring to the “process supervisor.” Faced with a lack of procedures, employees prefer contacting with a direct supervisor or closest associate than the process manager.

**Table 2.** Operating methods of employees in the absence of clear procedures

Specification	Ask		
	Direct supervisor (%)	Process maintainers (%)	Co-workers (%)
0-20% employees are doing so	8.1	22.4	28.0
20-40% employees are doing so	14.0	18.5	21.3
40-60% employees are doing so	19.0	13.4	12.2
60-80% employees are doing so	34.5	17.7	15.0
Everyone is doing so	17.1	7.5	7.5
No one does that	1.2	10.2	6.3
I do not know	6.2	10.2	9.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Respondents are aware of the importance of the problem and clearly point to it. In answer to the question: Do you consider a lack of procedures a problem? 81.5% of respondents answered affirmatively. The following answers were:

- Definitely YES – 37.7%
- Rather YES – 43.8%
- Rather NO – 15.4%
- NO, I think the procedures are superfluous – 0.8%
- I have no opinion – 2.3%.

This section presents the selected aspects of executive controlling, which indicate that it is needed in the management of the company to support managers in making difficult decisions.

## 6. Conclusions

Executive controlling includes all management levels, from executive to operational level. Although it uses the full spectrum of information tools, it should not be treated as synonymous with the accounting system. The acquired analytical knowledge is primarily used to optimize the way innovative technological processes are carried out in an enterprise. Thus, controlling has a much broader impact, since it affects both the basic and auxiliary processes in the enterprise.

In controlling processes, it is not only employees of economic divisions who are involved but, above all, employees of technical divisions, who are

decisively the authors of parameters influencing the economic and financial condition of the company.

One of the fundamental tasks of executive controlling is to build the image of the controller as a person with extensive knowledge, supported by a multidimensional, continually updated information system. That is, it is necessary to identify the controller with the person of a Consigliere, without the advice of whom decision-making would be practically impossible. It is also worth stressing here that executive controlling should not be equated with numbers because it is not with them that the controller works, but with people. And this can be considered a clear innovative factor that distinguishes executive controlling against other types of controlling.

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# BARRIERS FOR THE PRACTICAL USE OF CONTEMPORARY MANAGEMENT METHODS IN THE SELF-GOVERNMENT SECTOR

**Marzena Piszczek<sup>1</sup>**

## **Abstract**

*In the 80s of the last century, for the whole public sector, due to its low efficiency, old and inefficient administration model begun to replace gradually through multiple used in business management methods. Polish local authorities realize that to achieve beneficial effects is not possible without a modern management system that can help to improve the efficiency and the performance of local government. In addition, we see a lot of changes in economic, social and global, which have the negative impact on the functioning of the local government, and in particular, on its financial situation. In a clash with the growing expectations of the local communities, it forces local authorities to undertake specific activities.*

*The aim of the article is to present selected tools of contemporary management in the local government sub-sector, in particular multi - year financial planning, annual planning in the form of task-based budgeting, public-private partnership and internal management control and audit in context of legal and organizational barriers which influence the effectiveness of their use.*

**Keywords:** *self-government, efficiency, contemporary management tools.*

## **1. Introduction**

The thesis on the more effective performance of public tasks by self-governments has been discussed multiple times by several Polish and foreign authors. Effective self-government operation management is becoming more important in Poland not only because of numerous adverse trends affecting the financial conditions of self-governments but also due to decreasing financial resources combined with increasing expenses on task fulfillment and new development challenges of self-government territorial units (cf. Surówka, 2016; Szewczuk, 2016; Jastrzębska, 2016; Czekał, 2015). This operation also requires more advanced management methods and better management skills, which should result in a higher effectiveness of their actions. (Wojciechowski,

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2003; Piszczek (in:) Owsiak (ed.), 2002). The essence of these considerations is to answer the question whether the services provided to the inhabitants are of the best quality and price possible. (cf. Swaniewicz, 2004).

To meet the expectations both authorities and the inhabitants concerning the entire public sector and its effectiveness, in the 1980s, the replacement of the old and ineffective model of administration work with management methods used in business began. This new approach to public administration reforms, used in many countries, is called new public management. Self-government authorities realize that obtaining beneficial results is not possible without a modern management system including strategic planning, budgeting, project management, operational management, and quality management. (cf. Dylewski, 2007). All of them have a common goal: improving the effectiveness and performance of the self-government.

In Poland as well, practically since the beginning of self-government restitution, i.e., the 1990s, many different tools have been implemented in management practice.

The paper aims to present selected tools of contemporary management in the self-government sub-sector, which include long-term financial planning, annual planning in the form of a task-based budget, public-private partnership (PPP), as well as internal control and audit. There is no doubt that these instruments can improve the effectiveness of the self-government's operation. Although they are expected to allow better use of financial and material resources of the self-government territorial units, their practical use is problematic, which makes them dysfunctional.

The paper characterizes two types of barriers: legal and organizational. The author believes them to have a direct effect on the implementation and use of these tools. Legal barriers include the lack of regulations and the fact that the existing provisions do not meet the requirements of the users of the tools. Organizational barriers consist of an unwillingness to use modern tools, if their use is voluntary, and the lack of knowledge or understanding of their correct implementation.

Modern management tools in the self-government sub-sector are the tools that are gradually replacing the old management methods. For example, long-term financial planning was not adopted as obligatory until 2009, with effect from 2010. The task-based budget, although mandatory for the state budget since 2009, has not been introduced in the same form to self-governments. Despite the Act on the Public-Private Partnership, Poland still has one of the lowest ratios of its practical use. Finally, the procedures for internal audit and control that replaced traditional finance control (the Public Finance Act of 2009) are still being poorly implemented in self-government organizations.



The research methods used are observation and critical analysis of the literature and legal acts regarding the public finance sector.

The research and study aim to indicate the possibilities of eliminating the barriers above and propose specific solutions, mostly of a legal nature. The main hypothesis of the study is that the tools of modern self-government territorial unit management may contribute to the better use of financial and material resources and improved efficiency of the operation of self-government territorial units, provided that they are properly implemented, and the barriers limiting their practical use are removed.

Each of the selected self-government territorial unit management tools was defined together with the indicator of the barriers currently limiting their use and proposed changes that may contribute to their reduction or better use.

## **2. Long-term financial planning**

Long-term financial planning is a process of determining financial capabilities of a self-government territorial unit in a long period. It allows for a variant estimation of future revenues and spending of a self-government territorial unit, as well as its deficit levels in determining crediting scale and costs of service of drawn or planned liabilities. Long-term financial planning is a result of many years of financial planning and analysis of different variants of financing tasks fulfilling the goals defined in the self-government territorial unit development strategy. Long-term financial planning is a tool for rational public resources management, and debt management is its integral part. Cichocki (2001) defines its characteristic traits such as:

- long-term perspective in investment and operational task plans,
- exhaustiveness of budget implementation plans and all units providing services for the inhabitants, regardless of their organizational form,
- effective planning and management of own resources and debt,
- participation of inhabitants in self-government territorial unit management.

The author also indicated three pillars of good long-term financial planning including exhaustive, clear, and reliable financial reporting, reliable forecasts of budget encompassing revenues, spending, debt, and its service, and finally low costs of long-term infrastructural tasks (Cichocki, 2001, p. 10-11).

Long-term financial planning is considered one of many complementary methods within integrated self-government territorial unit management and encompasses long-term investment planning methodology, task-based budgeting, as well as self-government territorial unit management and its sectoral policies.

There is an important link between task-based annual budgeting based on the unitary cost of services and other parameters and long-term financial planning. According to Cichocki “in the process of long-term financial plan preparation, effectiveness calculations made using models of task-based budgeting, preparing investment for implementation, and restructuring are used. Moreover, resources for investments defined in the long-term investment plan, in particular for priority investments are reserved.” (2001, p. 11).

Long-term financial planning assures thorough forecasts of revenues and spending, which means a precise calculation of available funds for investments financing. It also allows for the creation of a long-term investment plan financing and adjusting the financing to budget liquidity and a safe debt level.

Long-term financial planning, an integral part of which is the anticipation of debt and its payoff, is, together with the budget, one of the most important financial planning documents. Within debt policy, one of the most important tasks is indicating the optimal level of debt in the most reliable and responsible way possible. Nawrocki (2016, p. 27) defines the optimal level of debt as a level on which the debt will be repaid before the need to replace tangible assets of a self-government territorial unit allowing budget liquidity in all the years covered by the plan and warranting creditworthiness without falling into the debt trap. Determining that level will also allow for the designing of a scale of possible investments for implementation (cf. Jastrzębska, 2016).

The obligation of long-term financial plan preparation is defined in Article 226 of the Public Finance Act of 27 August 2009 (Journal of Laws of 2013, item 885 as amended, from now on referred to as PFA), and the Regulation of the Minister of Finance issued on the basis of authorization contained in Article 230b PFA. (Journal of Laws of 2013, item 86). The primary argument for the implementation of these provisions is the postulate of rational management of public funds, maintaining budget stability, or control of self-government territorial units’ debt. Without discussing budget stability and budget balance related to it, the impact of many economic and social factors on revenues and expenses, and last but not least, the construction of the debt indicator described in Article 243 PFA, it is worth mentioning that a step in a very good direction was made when it comes to self-government territorial unit finance management. The extent to which this instrument will be used in strategic management depends not only on its construction but also on the methodology used in its elaboration.

Salachna (2015, p. 63) states that long-term strategic planning should encompass at least three stages:

- analysis of priorities focused on stakeholders’ (self-government community) expectations and the mission of the organization (main tasks of a given self-government territorial unit),

- choice of an optimal strategy for given conditions and period among the available options,
- implementation of a strategy including both the planning of resources necessary for carrying it out and determining possible organizational structure or control systems changes for implementation of the strategy.

To summarize, long-term financial planning may be a management tool if it had the necessary strategy traits and was elaborated in a process containing the stages listed above. The analysis of the long-term financial planning-related regulations in effect, in particular the construction of the debt ratio (Article 243 PFA), numerous exclusions from the category of debt, as well as off-balance sheet investment financing instruments, and finally the period covered by the plan (sometimes even several tens of years) makes long-term financial planning an unreliable forecasting tool (cf. Salachna, 2015; Tarnowski, 2015; Woźniak, 2015) which cannot be considered effectively used for self-government territorial unit management.

A similar line was taken by the Presidium of the Regional Chamber of Auditors and Supreme Audit Office. Therefore, changing several elements in the legal area should be considered:

- Firstly, limiting the long-term financial planning time frame to a maximum of four years, as in the regulations regarding long-term financial planning in the government sub-sector, also in part dedicated to debt forecast.
- Secondly, clarifying the relationship between long-term financial planning and the annual budget, so that the amendments to the budget resolution made through the year do not cause automatic amendments to the resolution on long-term financial planning, which, in principle, is a strategic document<sup>2</sup>.
- Unambiguous specification of the categories of debt to be taken into account by self-governments in order to calculate the individual debt indicator, including off-balance sheet debt financing instruments, resulting in the exclusion of the possibility of interpretation of particular events and economic or financial operations by self-government territorial units is also worth considering.
- Surely, one of the largest challenges is — as stated before — the very construction of the debt indicator (Article 243 PFA) in a way that would be more satisfying for self-government territorial units and reflect the capabilities of incurring debt more realistically.

Despite many basic limitations, long-term financial planning is considered a very desirable instrument, the construction method of which should be popularized among self-governments.

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<sup>2</sup> Research shows that 87.5% of all examined self-government territorial units change their resolution on long-term financial planning 13 times in a financial year on average.

### 3. Task-based budget

The analysis of functions of budget defined as a form of organization of financial resources management leads to a conclusion that it is an institution (a tool) that might be used for managing a given entity.

The literature describes the attributes of a good modern budget. Among them, the following are worth mentioning: transparency of the intentions of public authorities, presentation of financial results of these intentions, presentation of the relations between tasks and their quality standards, ability to control and monitor budget expenses, and motivation system for the executors of tasks (cf. (ed.) Owskiak, 2002). Numerous functions of the budget, particularly the management function, financial policy of a self-government territorial unit, and communication with the local community, are also indicated. Features such as clarity, understandability, and transparency of the provisions are important for the ability of actual and complete fulfillment of the transparency principle (cf. Filas & Piszczek, 1999).

The budget of a self-government territorial unit is a basic instrument of its financial management and, as an annual financial plan, being an expression of its potential management policy is a base for decisions and delineates the directions for self-government's actions in particular disciplines.

The significance of annual planning and budget is mentioned by Pakoński (2000), who emphasizes the management function of the budget, or Dylewski (2007), who claims that budget as a financial management tool is linked with collecting and spending public resources in a way that provides the maximum effect not only on the economy but also on the social level.

In practice, the budget of a self-government territorial unit, due to the diversity of its contents and features and to the use of different construction methodologies, is of diverse kinds and types which attest to its usefulness in self-government territorial unit operations management.

According to the PFA, the budget is defined as an annual plan of revenues, expenses, incomes, and expenditures of a self-government territorial unit. Apart from the information on planned revenues and expenses, the budget indicates the sources for addressing deficit and surplus.

A self-government budget is a general fund. For purposes of management and planning, it is divided into current budget and investment budget, as these two categories have different objectives. Current expenses serve for fulfilling local community needs in the near future (i.e., financial year), whereas the effects of investment expenses will be noticed by the local community in distant future. Therefore, the budgeting plan allocates a different source of revenues for each type of spending (cf. Kosek-Wojnar & Surówka, 2002, pp. 51-52).

Both legislative and executive authorities take part in the budget procedure of a given self-government level. The budget adopted by representative bodies of self-government authorities sets the limits of the self-government financial economy.

Budget management on an annual basis is very important not only from the viewpoint of task implementation, connected with granting or not the discharge to the executive body<sup>3</sup>, but because the relations between particular budget categories, such as total revenues and current budget expenses, indicate the level of gross spare funds (net after subtracting debt servicing costs) that are used as a base for investment task planning. Only a thoroughly planned annual budget can indicate ways of saving money, an alternative, better way of implementing a task, or how to obtain better productivity or effectiveness parameters. Finally, it allows for the precise monitoring of the results of expenses. Perfecting budget planning methodology, when it comes to current expenses, which — as the latest research shows — not only increase but also become inflexible, determining the abilities of self-governments to finance the development, would improve the effectiveness of self-government territorial unit management (cf. Piszczek, 2016). In general, in the case of the current structure of budgets, 80% (in case of some self-government territorial units even 90%) of which are usually current expenses, the only alternative leading to the improvement of the financial condition of self-government territorial units and its correct estimate, is a task-based budget structure that would allow comparing similar units by type and economy (tasks) over time. It would also allow for the allocation, and in consequence, monitoring the full total cost of the tasks.

A tool that is perfect for annual planning is a task-based budget, which can also be used for planning in perspective longer than a year.

A task-based budget is a self-government territorial unit financial plan, in which the administration prepares detailed activity-and-finance plans for the disposers before classifying the predicted expenses in accordance with the budget classification in effect (Pakoński, 2000, p. 16). A budget task is defined as a basic budget structure unit, internally coherent, and representing quite uniform actions. For these tasks, the total cost is calculated, and appropriate responsible persons are assigned. (cf. Piszczek (in:) Filas, Piszczek & Stobnicka, 1999).

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<sup>3</sup> The discharge for self-government territorial units serves the purpose of controlling budget implementation by self-government territorial unit executive bodies. This control takes place once a year by the decision-making bodies of these units. The provisions in effect allow distinguishing four stages of the discharge procedure. The procedure of **discharging self-government territorial unit management** can be divided into: (1) evaluation of the budget implementation report for the previous year prepared by the self-government territorial unit management; (2) preparation of discharge application and its review; (3) resolution of a decision-making body of a self-government territorial unit concerning granting or not the discharge; (4) fourth stage, taking place only when the discharge was not granted, connected with the procedure commenced in order the application of management dismissal, which is a consequence of lack of discharge.

Task planning requires, on the one hand, estimating self-government territorial unit's financial capabilities, and preparing a set of planning data for the resource disposer or the person responsible for implementing the task on the other. It is a very important stage of the process of planning the budget, which should be well-managed and requires some planning process formalization, i.e., using appropriate tools and procedures. Task planning is a process of indicating what, how, by whom, and when should be done. There are different types of tasks: internal, external, permanent, one-year investment, direct, and indirect.

Task management is comparable to project management, as each task is treated as a sort of project, to which a person responsible for its implementation and financial resources is assigned, the duration is indicated, if necessary, subsequent stages of implementation are described. Last but not least, the desired effects are defined.

This confirms the thesis that a task-based budget is a multidimensional tool, and its implementation, apart from the advantages mentioned above, may not only contribute to the better use of financial assets of a self-government territorial unit but also serve as a base for construction of an evaluation or motivation system for employees, quality monitoring, or risk management.

Introducing the task-based budget to a self-government territorial unit as a finance management tools may deliver a range of measurable effects in the form of financial savings and improved financial management effectiveness. Moreover, it is worth mentioning that the task-based budget provides more opportunities for fulfilling certain functions. The advantages coming from the change in resources allocation, budget planning, or using some market mechanisms to evaluate the tasks, are also very important. Allocating based on objective assessment criteria based on careful calculation of unitary cost for each project, which is the opposite of the tendering and discretionary way of allocating resources or output management, allows comparing costs and choosing the best offer.

A correctly introduced task-based budget can improve self-government territorial unit operations, allow savings and better effectiveness (Piszczek, 1999).

Borowik (2013, p. 21) states that a task-based budget is a tool allowing integration of multiple tools into one coherent management system. The author lists quality management systems (e.g., ISO 9001, *CAF – Common Assessment Framework*), strategic planning, monitoring, evaluation, long-term financial planning, risk management, internal audit, internal control, results in measurement systems (e.g., *Strategic Balanced Scorecard*), and cost accounting among these tools. Therefore, task-based budget implementation can not only contribute to the better use of financial resources by self-

government territorial units but also serve as a basis for employees' motivation or evaluation system.

This multi-dimensional tool is rarely used in Polish self-government territorial units despite many attempts to introduce it. A survey carried out by the Ministry of Finance in 2013 confirmed not only little interest in a task-based budget in relation to all the self-government units but also the poor quality of short-term planning in self-governments.<sup>4</sup>

On the state level, a task-based budget is an obligatory requirement, in effect for years. There are no regulations obliging self-governments to use the task-based budget though. It is a pity, as it would mobilize Polish self-government to improve their planning methods and ways of using their limited financial resources.

#### **4. Public-private partnership (PPP)**

In Poland, the public-private partnership is regulated by two basic acts: the Act of December 19, 2008 on Public-Private Partnership (Journal of Laws of 2009 No. 19, item 100) and the Act of January 9, 2009 on Construction Works and Services Concession (Journal of Laws of 2009 No. 19, item 101 and No. 157, item 1241). Therefore, previous legal acts related to the PPP ceased to be legally binding.

The legislator intended to create legal norms for the PPP operation that could become an equivalent model of tasks and infrastructural expenses financing. Both the PPP and a concession, in the legal sense, are specific forms of public service contracts.

In the contemporary public management system, government, and self-government administration transfer public functions to private entities. PPP should be understood as an entire field of cooperation of all sectors, in terms of the doctrine of state, economy, and society operation and regarding organizational activities leading to the assumed goal. The new approach to public management focuses on privatizing public tasks, assuming that if a given task or field of activity can be carried out on market terms, there is no reason for public authorities to do it themselves. This means that such a task is usually no longer financed by taxpayers, i.e., budget money, and the cost of such a task is partially financed by an interested private entity.

The essence of PPP is cooperation and sharing of risk when performing a task so that job and risk distribution can make most of the advantages of each project participant. This way, each party will be able to fulfill its tasks better than the other. Task and risk distribution within the PPP achieves the most economically effective way of creating infrastructure and providing public

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<sup>4</sup> [www.mf.gov.pl](http://www.mf.gov.pl)

services. It is also assumed that each party benefits from the cooperation proportionally to its involvement. Key PPP elements are:

- cooperation of private and public sectors
- contractual nature of a civil law relationship
- purposeful nature of projects concerning carrying out ventures traditionally implemented by the public party
- optimal task distribution
- risk sharing
- mutual benefits

Moreover, in the literature, the long duration of contracts, which are concluded for 30 and more years within PPP<sup>5</sup>, is usually mentioned as a characteristic element.

The PPP also assumes a specific type of contracts for such tasks. The most popular and complex are concession contracts.

Cooperation models within PPP may differ significantly. The most common are:

- **BOT — Build — Operate — Transfer.** In this type of contract, a private investor designs and builds an object, operates it, and finally transfers it to its public partner that fulfills regulatory and supervisory functions. The investment is financed by the public party, which is the owner of the infrastructure. In a BOT model, a private company is granted a concession to build and operate a facility, which would otherwise be constructed (as a public procurement contract) and operated by the public sector. Such a facility may be a power plant, airport, toll road, tunnel, sewage treatment plant, or telecommunication infrastructure.
- **DBFO — Design — Build — Finance — Operate.** In this type, private partner designs appropriate infrastructure, financing design and construction works by itself. For the duration of the agreement, the investment is usually private investor's property and is later transferred to the public entity. A variant in which the infrastructure belongs to a public entity is also possible, especially when the private partner's financial contribution is small at the investment stage. Unlike in the BOT model, the assumption of this model is to obtain a financial contribution from the private partner as early as the investment stage to build infrastructure with a bigger impact. This model is used when the public partner does not have enough resources to finance the investment or wants to minimize public resources contribution through searching private financing on the market. Contrary to a service concession and BOT models, the private

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<sup>5</sup> For example, the concession for construction and operation of the parking place on Plac na Groblach in Kraków was concluded for 70 years.



partner finances a part of investment costs, not only the operational costs during the operational stage.

- **DBML — Design — Build — Manage — Lease.** In this type, private partner plans and designs the infrastructure builds and activates it, and then maintains and manages it, making it available to entrepreneurs who conduct business activity using it. The difference between the BOT and this model is that the private partner does not only provide services in the infrastructure itself, or designs it (in terms of construction projects) but also plans it — business activity is carried out by the entities with which the project partner concludes appropriate agreements. In this PPP model, entity distribution of the operational and service functions takes place.

There are also other models or types of contracts, such as:

- **BOOT — Build — Own — Operate — Transfer.** In this type, a private partner is the owner of the infrastructure element constructed. After construction, it manages the assets and obtains benefits covering the costs of creating the infrastructure and ensures a specific return rate. The incomes come directly from the users of the infrastructure, who pay the service provider in exchange for using it. After some time, when the private partner has earned enough, the infrastructure is transferred to the public party free of charge.
- **DBO — Design — Build — Operate.** DBO projects are one of the forms of a public-private partnership. In a DBO project, the ordering institution concludes an agreement with a private sector company (or a consortium) for a project, construction, and operation for a given period of an infrastructure element. The resources come mostly from the public sector (including potential EU subsidies), which is the main difference between this model and the DBFO. The DBO method is used in many sectors and countries.
- **DBFM — Design — Build — Finance — Maintain.** This type is a well-known approach to PPP, in which the partner from the private sector is selected in an open competitive tender. Usually, several groups cooperate to form a consortium responsible for project, construction, and operation of the object, which provides an advantage in the form of a fully integrated process that may lead to innovative solutions. Some elements of the operation may be transferred to the private sector. The scope of these services is usually limited, and overall responsibility for object operation is kept by the public sector.

The ASD (*Alternate Service Delivery*) as a form of PPP, particularly when there is no need for a new object, is worth emphasizing. In this case, the public entity concludes a contract with a private entity only for the provision of services, mostly concerning the facility's operation and maintenance,

or provision of some services to external entities. These services usually encompass operation and maintenance of recreational facilities, operation and maintenance of self-government water-sewage networks, provision of public transport services, operation of municipal parking places, as well as the provision of IT services, and devices for the self-governments.

A public-private partnership can be based only on a public-private partnership contract or on a limited liability company, joint-stock company, limited company, or a limited joint-stock company set up for this purpose. The variant of setting up a special purpose vehicle may be used practically in each of the models described above. Depending on the decision of the public partner, it may prefer a looser contractual form without establishing a common organizational unit (a company) or a stricter one, requiring the establishment of such a unit (cf. (ed.) Korbus, 2010; Słodowa-Helpa, 2014).

For years, the public-private partnership has been considered a very beneficial form of implementing infrastructural investments in many countries. A visible PPP popularity increase has been observed for the last few years. Since the middle of the 1990s, the number of PPP projects has increased over twenty times, reaching the value of USD 100 billion. The main area of PPP investment implementation is Western Europe.

The leader of PPP is unquestionably the United Kingdom, where 980 projects have been implemented since 1992, and ventures carried out using PPP instruments constitute 23% of all public investments. In Poland, a corresponding indicator is ca. 1%. The value of Polish projects is only 1.8% of the PPP market in the EU, whereas the value of British projects is 53%. In Europe, this form of public and private sector cooperation is common not only in the United Kingdom but also in Spain, Portugal, France, and Italy. This form of partnership is also more popular in Germany. High public debt made German self-governments use this instrument. Between 2002 and 2014, 194 contracts of a total value of EUR 7.6 billion (31.8 billion PLN) were concluded (cf. Słodowa-Helpa, 2014, p. 14).

Outside Europe, the PPP is widely used in India, Australia, US, Japan, South Africa, or Canada. Unfortunately, in Poland, this instrument is still rarely used. Between January 2009 and December 2016, a total of 112 agreements were concluded. Among all 470 initiated procedures, 297 were canceled for different reasons. The fields in which PPP was used the most frequently were sport and tourism, transport infrastructure, energy efficiency, healthcare infrastructure, and water and sewage management. The value of the concluded contracts is ca. PLN 5.6 billion (cf. (ed.) Korbus, 2016, p. 31).

Undoubtedly, the still small popularity of PPPs in Poland is due to the fact that self-governments, which are the most active party when concluding contracts, have been successfully reaching for EU funds for many years.

Moreover, popularizing the knowledge about concluding favorable contracts within PPPs is very important. In its mission, the Ministry of Development included the popularization of this tool, believed to be more complicated and therefore requiring more knowledge, appropriate negotiation, and forecasting skills. Risk and responsibility distribution among the parties of the contract, the duration of which is several decades or the choice of the appropriate form of cooperation and the contract, also depending on the type of financial task, is surely a challenge for the parties to the contract.

## **5. Internal audit and internal control**

Internal audit and internal control are instruments supporting management in public finance sector units. The main aim of their implementation to the practices of public finance sector units is to increase their effectiveness through introducing techniques and methods of its evaluation.

Internal control replaced the financial control through the Public Finance Act of August 27, 2009 (Article 68(1)) (Journal of Laws of 2013, item 885 as amended), with a legal effect as of 2010. Internal control answers the question regarding the way of fulfillment of goals and tasks by a public finance sector unit and focuses particularly on ensuring:

- compliance of the activity with the provisions of law and internal procedures
- effectiveness of activity
- reliability of the reports
- assets protection
- following and promoting of ethical conduct rules
- effectiveness of information flow
- activity risk management

The functioning of internal control in public finance sector units is coordinated by the Minister of Finance, which, among other things, issued 22 standards of internal control the aim, of which is to improve internal control systems. They were divided into five problem areas: internal environment, risk management, control mechanisms, information and communication, monitoring, and evaluation. These standards are not divorced from the activities of the units but integrated with their management process. Internal control is a system including diverse procedures and instruments, which should assure that the goals of the unit are fulfilled and is a functional control because it is related to implementing the management function (cf. Nowak, 2017; Sołtyk, 2017).

The internal audit was also defined in the Act of August 27, 2009 (Journal of Laws of 2013, item 885 as amended), Article 227, and shall be understood

as an objective and independent activity. The aim is to support the manager of the unit in fulfillment of goals and tasks through systematic evaluation of internal control and advisory activities. The main task of an internal audit is the evaluation of adequacy and effectiveness of internal control in such units in an objective and independent manner. The auditor focuses on two types of tasks: assurance and advisory. Assurance tasks aim to evaluate the internal control system and its most important areas as well as to recommend particular ways of improving a unit's functioning. Advisory tasks encompass other recommendations, supporting diverse processes agreed upon with the manager of the unit, meeting the requirement of internal audit independence.

Just as in the case of internal control, conducting an internal audit in public finance sector units requires following the standards of the Minister of Finance, which, in turn, follow international standards and include:

- internal audit attributes standards defining the goals of the organization and persons carrying out internal audit activities,
- operating standards describing the nature of internal audit operation and the qualitative criteria of their assessment,
- implementation standards concerning specific types of tasks and include standards of assurance and advisory tasks (cf. Nowak, 2017).

Internal audit includes diverse techniques and methods, which make it an effective instrument supporting public finance sector units.

It contributes to effective operation, allowing for unit operation evaluation in terms of different criteria: compliance with the law, reliability, transparency, and clarity. Therefore, an internal audit brings a certainly added value to the units. Internal audit and control are public finance sector where unit management instruments can achieve complex goals and improve the operation of such units.

The research conducted in the area of the use of internal control as a management tool demonstrated that the authorities are not determined to use it or even understand its place in the self-government territorial unit management system. Similarly, internal audit is associated rather with an unpleasant duty than with the increase of management efficiency. This is why making internal audit an obligatory tool also in the units that are currently legally exempted from such obligation is worth considering. As always, the methodology of the audit and the implementation of its conclusions is a core organizational factor that may contribute to the improvement of the use of this tool. The correct design, proper implementation, and smooth functioning of internal audit and control are crucial for their efficiency as management tools. These solutions must include the internal conditions of self-government territorial units. (cf. Nowak, 2017; Sołtyk, 2013; Lisiński (ed.), 2011).

## 6. Conclusions

In order to improve their resource management, self-governments can use diverse instruments. Both long-term financial planning and annual budget may be used in practice for effective self-government territorial unit management. Long-term planning increases the awareness of future threats of the decision-making bodies in self-government and indicates potential new opportunities, which would not be found without it.

Similarly, a task-based budget, despite the increased workload it requires, provides better analytical capacity and better support for decision-making.

In turn, the PPP as a specific form of carrying out public tasks allows not only for risk diversification but also faster completion of tasks that the self-government is not able to carry out due to budget or time constraints.

Finally, introducing an internal control and internal audit contributes to better control of public resources used.

In summary, it is worth emphasizing that, as a country, we are still in the process of learning and implementing diverse techniques of modern public sector management in territorial self-government units, so we need to popularize and improve them and make them the good standard of work.

This, however, requires determination and elimination of many of the legal and organizational barriers which today are identified.

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# THE NECESSITY OF REDEFINING THE PRINCIPLES OF PROCESS MANAGEMENT

**Marek Szelaǳowski<sup>1</sup>**

## **Abstract**

*The rapid development of process management and its practical uses stems from the changing conditions of business, which are the result of overlapping and mutually stimulating changes in business culture, social conventions, the development of information and communication technologies, as well as the process of globalization and changes in the principles of competition themselves. For several years now it has become apparent that practical methodologies and IT systems supporting the implementation and use of process management in organizations are developing at a much more rapid pace than their theoretical underpinnings. The 3rd wave of development of process management, which has been initiated around the year 2003, is becoming increasingly less responsive to the requirements of modern business. The first aim of this article is to stress the need for further theoretical reflection on traditional process management, which due to changes in the paradigms of the knowledge economy may be used in the case of a mere 20%-30% of the processes within the organization. The second aim of the article is to showcase the direction and the characteristics of the 4th wave of process management, which mostly stem from practical solutions. The article presents the development of BPMS and CMS systems and the implementation methodologies which use them, showing how both are becoming closer to one another, or rather, how both are turning in the direction brought about by the needs of the clients. This development has a fundamental significance for practitioners dealing with the preparation of tools and the implementation of methodologies pertaining to process management and knowledge management within organizations, by defining the direction of further development for both their systems and services. At the same time, it allows scholars researching process management to analyze and, if the need arises, introduce corrections to the concept of the 4th wave of BPM, as well as make insights into the effects of the change, which, for all intents and purposes, is ongoing.*

**Keywords:** *business process management (BPM), dynamic business process management (dynamic BPM), case management, knowledge management (KM), the third wave of BPM, the fourth wave of BPM.*

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## **1. Introduction**

Modern economy is undergoing accelerating, unforeseeable changes, which are the result of overlapping and mutually stimulating changes in the business culture, social conventions, the development of information and communication technologies, as well as the process of globalization and changes in the principles of competition themselves. Both the rapid pace of development, as well as the qualitative character of the undergoing changes, result in the necessity of searching for new solutions, which would fundamentally change current fields and principles of business management. The characteristics of this new order remain unknown. Undoubtedly, process management remains a crucial part thereof, as it adapts the management of organizations to the conditions set by both the global market and individual consumers at a faster pace than other concepts. Alternatively, has it adapted – in the past tense? In the course of the evolution of process management thus far, theoretical reflection has been rooted in practical considerations, with one and the other existing in harmonious equilibrium. At present, however, the practical aspect is developing at a much faster pace than its theoretical underpinnings and foundations. At the same time, theoretical studies seem blind to such practical changes or even go as far as to negate them outright. The aim of this article is not only to stress the importance of theoretical reflection on traditional process management but also point to the main breaking points in terms of the synergy between theory and the practical considerations stemming from the needs of the organization. Such breaking points are the management of unstructured and unforeseen processes and the support of business process management provided to knowledge management within the organization. The aim is also to highlight a solution which would satisfy the needs of the organization for a theoretical generalization, the direction of which is increasingly more clearly defined by practical solutions. The goal is to remove the practical-theoretical gap and to predict the further direction of changes. This, however, requires the verification and redefinition of our understanding of process management, beginning with the most fundamental definitions.

## **2. Definitions**

The exceptionally fast pace of the development of process management and its practical uses, including its methodologies and supporting IT systems, has led to the emergence of new concepts, as well as the reinterpretation of existing concepts, which might lead to some confusion on the part of scholars and practitioners alike. One cause of this confusion is the fact that different authors describe the same concepts under different names. In order to avoid

misunderstanding in the later part of the article, I would like to define the fundamental terms associated with process management.

### *Business process*

The term business process shall be understood as an organized set of actions leading to a specified goal (Davenport & Short, 1990, 3<sup>2</sup>; Bitkowska, 2013, 29).

### *Traditional business process management*

Traditional business process management (traditional BPM, static BPM) is a concept of management, as well as a methodology and a set of ICT tools used in the scope of identification, improvement, automation, and measurement of the results of the execution of business processes, used with the aim of raising their efficiency and profitability, assuming that process performers are not authorized to introduce changes to the process in the course of its performance (Gartner IT Glossary, 2016a). Descriptions (models) of traditional business processes change at a much slower pace than required for their performance, which allows us to conclude that the process does not change the course of performance itself. In turn, it is possible to improve processes on the basis of standard mechanisms of business process improvement (BPI). Most of these stem from the Deming concept and are based on different modifications of the PDSA cycle (Deming 1982; Davenport, 1996; 34-40; Pande, Neuman & Cavanagh, 2000).

### *Dynamic business process management*

Dynamic business process management (dynamic BPM) shall be understood as an extension of traditional (static) process management with the freedom of process performance to introduce dynamic process adaptations to the requirements of performance in the course of process performance itself.

The implementation of dynamic BPM should be performed in such a manner that the performance of a process will be equal with its documentation, including the documentation of all changes and improvements (Szelągowski, 2014; 61-68; Gartner IT Glossary, 2016b).

### *Case management*

Case management (CM), which is also known as adaptive case management (ACM) and dynamic case management (DCM), shall be understood as IT technologies along with their methodologies, which allow for work management on the basis of both structured and unstructured information used

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<sup>2</sup> To borrow from Davenport and Short: "We define business processes as a set of logically related tasks performed to achieve a defined business outcome."

in business processes performed in a manner which is completely dependent on the decisions of the knowledge workers performing the processes (WfMC, 2010; Swenson, 2010; Belaychuk, 2011).

### **3. The Main Factors Behind Changes to Management in Organizations**

Modern economy is undergoing accelerating, multifaceted changes, which are tied to the growing needs of the customers in regard to easier access to individualized products and services. Both the pace, as well as the qualitative character and the unpredictable nature of the undergoing changes result in standard principles of management, which are rooted in the specialization of workers and departments, becoming obsolete. This, in turn, necessitates the search for new solutions, which would fundamentally change current fields and principles of business. The characteristics of this new order remain unknown.

Furthermore, the characteristics themselves change due to the unending:

- changes in business culture and social conventions;
- globalization and changes in the principles of competition;
- development of information and communication technologies.

The aforementioned list of factors necessitating changes to the methods of management in organizations is not itself exhaustive. Furthermore, all such factors are mutually stimulating in a manner which is hard, if not impossible, to foresee. However, it is assumed that organizations which meet the new expectations will be “slimmer,” flatter in terms of their structure, more focused on the work of teams, flexible, continually adapting their actions to the needs and requirements of their clients (Płoszajski, 2005).

It is becoming increasingly more apparent that solutions which were once (perhaps even the day before) something to be proud of, should now be seen in terms of a failure in regard to the needs of the client, who is searching for products with diverse features, available on demand, within a reasonable price range, and of perfect quality. Organizations must be committed to working toward meeting both requirements voiced in the past, as well as emerging, often vaguely foreseen requirements of the future. They must remain on top of the changing needs of their clients. To this end, companies should analyze the habits and choices of their clients on an ongoing basis. However, it is no longer possible to understand the clients’ ongoing needs on the basis of evaluating their past choices. Changes in client habits resulting from globalization, technological changes, and the implementation of scientific innovation (e.g., IT and medicine) are so rapid that it is becoming crucial to gain an understanding and work in the present itself, on the basis of knowledge of the foreseeable future (Kisielnicki & Szyjewski, 2004, 1). This requires

organizations to make a daily effort to adapt their principles of operation and update their knowledge on the present and future requirements of their clients. It has become necessary to constantly broaden knowledge, as well as collect and analyze experiences resulting from ongoing contacts with clients, partners, and even competitors. In short, organizations must constantly learn how to take action. They must stay on top of rapid changes in terms of both technology and their surroundings, and, first and foremost, stay on top of the growing individual needs of their clients. Companies are forced to raise the appeal of their offer not just by lowering costs and improving efficiency but also through the personalization of products and services. The aim is to approach the new ideal: the single-client market. On this market, there is no optimal or ideal method of managing the business (Champy, 2003, 48).

Competition is not only becoming more fierce but also more rapid (Abell, 2000, 256). Besides traditional competitive fields, such as design and quality, competition is fast becoming a test of speed. According to the spokesperson for Boeing, Scott Griffin, “a fast company will always win with a slow one” (Champy, 2003, 164). The founder of the Yankee Group, Howard Anderson, believes that companies must now have one supreme goal: speed. Speed at any cost, hyper speed. (Tofler, 2003, 328). A company which will manage to adapt itself and its products to the requirements of its clients at a faster pace than the competition will gain a competitive advantage regardless of its current state of resources and possibilities. Fixed assets and expansive organizational structures are no longer a benefit, but merely an operational cost; one which might lead to failure.

In large organizations with extensive multilevel structures speed is forfeit due to the slow pace of the decision-making process, the need to hold internal negotiations, the need to accept changes to the budget, (D’Aveni, 1995, 45-60). Preparing the organization to meet the conditions of the modern knowledge economy requires us to abandon the “foresee and control” approach in favor of “act and learn.”

Recent years have witnessed multiple “expensive surprises,” which had an enormous influence on entire sectors of the economy. They have demonstrated that organizations without access to cutting-edge management methods were unable to use the opportunities in their surroundings to their advantage (Gierszewska & Romanowska, 2003, 76-91). They were unprepared for the emergence of sudden qualitative changes, which were not included in broadly accepted predictions. They had no knowledge-management system which would enable them to collect, interpret, and react to delicate anticipatory signals coming from their environment (Murray & Myers, 1997). It is, therefore, not surprising that their reaction to changes was usually belated, and oftentimes simply mistaken. With the growing pace of hyper competition

and growing dynamic strategic interactions between competitors on the global market, companies require the implementation of new management methods and tools (Onken, 2003, 233). Methods which allow for flexible adaptation and innovation supported by the ongoing measurement of the needs of the clients, the capabilities of the competition, and the efficiency of the company's processes, as well as tools, allow the company to influence and stay on top of the changing needs of the clients by way of broad, unrestrained experimenting and the rapid implementation of the acquired knowledge in the fundamental operation of the enterprise.

#### **4. The Development of the Concept of Business Process Management**

Process management is not a new concept of business management. It started to develop at the beginning of the 20th century. We can divide this time into three, or perhaps four different stages of development, which in relevant literature are often called "waves of process management" (Smith & Fingar, 2003; Bitkowska, 2009, 13):

- industrial engineering;
- value chain management;
- evolutionary adaptation to the needs of the clients.

The aforementioned stages showcase the methods of adapting process management to the requirements set by changes to business, as well as changes in approach to management itself.

##### **I. The First Wave of Process Management – "Industrial Engineering"**

The main goal of process management in the 1st wave was better time utilization, cost reduction, and expanding the production volume. This approach was used in the analysis and improvement of the functioning of production processes. The main assumptions of this approach were:

- an understanding of the process as a sequence of actions describing subsequent work operations;
- the elimination of redundant actions and unnecessary losses;
- the division of the process into fundamentals, or even the atomization of work (Drucker, 2000, 140);
- the complete expendability of workers performing simple, simple tasks;
- the elimination of initiative, both innovative and performative, among workers;

The Ford construction line has become the symbol of industrial engineering. It necessitated workers performing as "industrial robots" to perform a specific sequence of action within a specific time range in order to meet the tempo of production. Tofler (2003, 290-293) writes: "On principle,

work did not require any skills; it was tiresome, standardized, divided into the easiest tasks possible.” Despite the fact that Taylor (1911) was the first to connect knowledge on working with working itself, he was also the one who separated thinking from the action, set in stone for a long time the division between managers (“thinkers”) and those performing the actual work (“workers”). In this concept, the worker is a kind of a robot, which operates thanks to the control of the manager. (Hammer, 1999, 43). In the first half of the 20th century, the use of industrial engineering has allowed companies for the increase in the efficiency of physical workers by order of magnitude. The most benefits went to those companies who were the first to introduce the concept (e.g., Ford Motor Company) or were able to coordinate all of its operations to perfection (e.g., Toyota).

However, due to the separation of thinking and performance, the concept of industrial engineering has been burdened with two crucial faults:

- It allowed for raising the efficiency of physical work, but it failed in regard to mental work. The latter requires creative thinking due to its very nature, and it is impossible to compartmentalize it into simple performing actions which would require no thinking whatsoever. For this reason, it is also impossible to automate, which in the scope of “industrial engineering” would mean full repetition regardless of the individual personnel performing the work required.
- It requires both the technological process and the product itself to remain unchanged for long durations.
- If management, planning, and quality control are separated from the actual performance of work, the proper preparation and coordination of the production process require a long time due to the very precise nature of the analysis of all of the possible scenarios in order to defend the organization from all probable or simply possible threats. This, in turn, means that it is impossible to introduce rapid changes to the product line, nor rapid changes of a single product to the requirements of the client.

Industrial engineering yielded great results at a time when:

- the main problem was the organization of physical labor
- technologies were practically unchanging, and work was performed in stable conditions
- the product was standardized and shipped without taking into account the individual needs of the client.

However, following the growing needs of the clients and the growing pace of changes introduced to both products and services the principles of industrial engineering had ceased to provide a competitive advantage. They had started to become a burden, or even the cause of failure, at a time of

increased market change and increased customer interest in access to a diverse range of products. A good example of the erosion of the benefits provided at first by the implementation of the principles of the 1st wave of process management is the history of the Ford Motor Company. The company had been producing a single model of an automobile for 20 years, which in the years 1914-1926 has also been offered in one color. However, what provided a considerable competitive advantage in the years 1908-1920 almost lead to the company's downfall in the years 1920-1927. The response to changing requirements in the practical dimension of business management was the 2nd wave of process management.

## **II. The Second Wave of Process Management – “Value Chain Management”**

The main goal of the 2nd wave of process management took the form of management focused on the value offered to the client. Its main assumptions were:

- the total operations of an organization should be focused on providing products and services to the client and the processes within the organization should be subordinated to this task;
- each action or group of actions should provide value to the client;
- the value is dependent not only on the quality of work performed in the course of specific actions or their groups but on their coordination as well.

Porter's research on the value chain (1985) is considered to be the beginning of the 2nd wave of process management. In 1986 Deming (1986) formulated the “Deming Flow Diagram,” which described the horizontal connections within a vertical organization, running from the supplier to the client, as a process which can be measured and improved upon. In their article “New industrial engineering: Information technology and business process redesign” (1990), Thomas Davenport and James Short stated that the principles of process orientation are fundamental to the organization. In the same year, Michael Hammer (1990) presented the concept of process orientation as the fundamental component of reengineering. Such a proliferation of meaningful and often game-changing works in a single decade demonstrates the rapid pace of undergoing changes and the strong pressure of business to adjust management to the changing rules of competition and conditions of operation.

The main directions of the development of process management in the course of the 2nd wave of process management were:



### *Revolutionary concepts and methodologies*

The most known among the concepts of revolutionary changes to managing the organization is the concept of Business Process Reengineering (Hammer & Champy, 1993). It calls for:

- the radical redesign of the organization and its processes;
- the rejection of existing principles of action (in regard to the organization and its processes);
- with the aim of a sharp rise in efficiency, followed by a rise in profit, by 50%, 100%, or more;

However, the actual execution of those principles has led to:

- significant problems with the management of human resources;
- stemming from the irrational expectation of abrupt changes in organizational culture;
- the loss of a significant part of the knowledge of the organization.

Most attempts at implementing Business Process Reengineering have failed. At present, no more concepts and methodologies are introduced with the mindset of a “fundamental rethinking and a radical redesigning of the organization” and there seem to be no practical implementations of the concept of Business Process Reengineering (Davenport, 1995).

### *Evolutionary concepts and methodologies*

Evolutionary concepts and methodologies were based on various modifications and practical extensions of the Deming PDCA (or rather, PDSA) Cycle. They called for:

- the ongoing, evolutionary innovation within the organization;
- the operation of the organization in a way which enables constant innovation.

The most representative among the evolutionary concepts is the concept of Business Process Redesign (Davenport & Short, 1990; Davenport, 1996).

However, despite multiple successes, with the rising pace and the unforeseeable character of changes in the market economy, implementations stemming from this group of concepts have begun to fall short of the requirements that organizations started facing in effect of their:

- over-focus on perfecting instead of innovating;
- lack of openness to radical changes caused by, e.g., new groundbreaking technologies or rapid changes to social life and work culture;
- slow and limited approach to knowledge management.

Process management concepts within the 2nd wave of process management have developed under the influence of the needs and expectations of business, and, first and foremost, the experiences gained during subsequent implementation. The cause of this was the growing pressure of doing business, caused by:

- the growing volatility and pace of operations;
- globalization;
- the rapid development of information and communication technology (ICT);
- changes to social culture as the result of e.g. widespread digitization of life and work;

which forced organizations to search for new methods of operation and, as a result, new methods of management. This constant practical verification of a theoretical process management concept pointed to the cumulating changes, which have become the basis of formulating the theoretical framework for the 3rd wave of process management.

### **III. The Third Wave of Process Management – “Evolutionary Adaptation to the Needs of the Clients”**

The main goal of the 3rd wave of process management is to enable organizations to adapt to the changing needs of their clients on an ongoing, evolutionary basis. Its main assumptions are:

- process management as a coherent and flexible system of operation and innovation within the organization;
- management of the entire process from the point of view of the client, also engaging the organization’s suppliers and partners;
- the harmonious use of ICT technologies in order to raise the quality of management (flexibility speed, accessibility mobility, transparency) and shorten the process optimization loop (Smith & Fingar, 2003).

The 3rd wave of process management stresses the importance of using information and communication technologies in order to ensure day-to-day business flexibility, all the while keeping in mind the necessity to delegate powers in places which are close to the place of operation.

Unfortunately, the assumptions of the 3rd wave did not include the needs and the attempts of using process management to manage unstructured processes, which have been going on since the ‘90s, also with the use of methodologies and tools of case management. In result, the proposed solutions still do not encompass the accelerating individualization of the needs of the clients, nor the growing significance of creativity and inventiveness on the part of knowledge workers. With changes to the social culture and work culture due to the widespread digitization of work and life alike, such factors have a growing influence on the management of modern organizations. At the same time, the paradigm of the superiority of a process diagram over different forms of process description, which is promoted by a large number of scholars and practitioners of process management, results in most organizations becoming unable to implement process management in accordance with 3rd wave principles. Failing to notice or dismissing outright the undergoing changes

results in a widening chasm between theoretical reflection and the expectations and practical solutions implemented in the organization.

The proposed evolution of process management in the course of the last 100 years demonstrates how fundamental changes in requirements and expectations of holding business resulted in changes to conceptions and practical rules (sometimes even implicit unwritten rules) of implementing process management (Table 1).

**Table 1.** Factors behind changes and changes in approach to process management

<b>Wave of process management</b>	<b>Rules (assumptions)</b>	<b>Fundamental change factors</b>
I Industrial engineering (1911-1980)	<ul style="list-style-type: none"> <li>• No process changes or slow pace of process changes</li> <li>• Elimination of redundant actions and unnecessary losses</li> <li>• Division of the process into simple elements</li> <li>• Full expendability of workers performing simple tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Larger product and service variability, which necessitates larger production process variability</li> <li>• Bigger significance of intellectual work</li> <li>• Bigger focus on services</li> </ul>
II Value chain management (1985-2003)	<ul style="list-style-type: none"> <li>• Each task or group of tasks must provide value for the client</li> <li>• The value is dependent not only on the quality of the work performed during different actions or their groups but also on their coordination as well</li> <li>• Processes within the organization are innovated upon through evolutionary or revolutionary means</li> </ul>	<ul style="list-style-type: none"> <li>• Globalization</li> <li>• Growing volatility and pace of operations</li> <li>• Rapid development of common information and telecommunication technologies</li> </ul>

<b>Wave of process management</b>	<b>Rules (assumptions)</b>	<b>Fundamental change factors</b>
III Evolutionary adaptation to the needs of the clients (2003-2015)	<ul style="list-style-type: none"> <li>• Process management as a cohesive and flexible system of operation and innovation within the organization</li> <li>• The entire process is being managed from the point of view of the client, while also taking into consideration the organization's suppliers and partners</li> <li>• Harmonious use of information and communication technologies (ICT) in order to raise the efficiency of management and shorten the process optimization loop</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to social culture due to the common digitization of work and life</li> <li>• Growing importance of knowledge and the practical use of intellectual capital for the organization</li> </ul>

The direction of the development of process management is determined by two fundamental, mutually stimulating and strengthening factors:

- the development of information and communication technologies (ICT);
- changes in work and life social culture.

Both resulted in the rapid acceleration and globalization of business operations as the result of the rapid acceleration and expansion of the possibility to share knowledge and the de facto dismantling of the barriers that distance once put up for holding business. Due to their rapid, widespread adoption of the private sphere, information and communication technologies are also used without cultural barriers in business. New business technologies and models, such as the personalization of products and services, e-commerce, mobile technologies, cloud computing, the Internet of Things, and elements of Artificial Intelligence have practically entered business at the same time as entering the private lives of millions, if not billions of potential workers and clients. In effect, it is impossible to ignore new factors which necessitate introducing changes to process management in organizations, such as:

- the growing digitization of business;
- further changes to social norms due to the widespread digitization of work and life (forced digitization);
- required individualization of processes with the use of big data techniques and Artificial Intelligence.

## **5. The actual state of the practical implementation of process management in organizations**

The implementation of traditional business process management in accordance with the principles of the 3rd wave of process management is facing problems which are the result of failing to notice (or negating outright) the changes that have been introduced and which are still being introduced in the market economy. They are the results of attempts at implementing traditional, that is, static management in business, which itself is becoming increasingly more dynamic. As numerous research by various organizations and research institutes demonstrates, static processes account for about 20-40% of all the processes within the organization (Kemsley, 2009a; Pucher, 2010; Ukelson, 2010; HandySoft, 2012).

These processes are primarily:

- processes regulated by external laws (e.g., accounting, or financial processes);
- internal processes of the organization which have no substantive contact with client-facing processes;
- production processes highly regulated due to objective external criteria (e.g., biological, physical, chemical) or held patents, concessions, and licenses.

In the case of the remaining 70% to 80% of business processes, particularly those which pertain to the creation or supply of innovative, modern products and services dedicated to outside clients, it is impossible to simply repeat in detail a once-defined “ideal” process, as there are simply no ideal processes in the knowledge economy, to begin with. Each performance of a given diagnostic-therapeutic or e-commerce necessitates the awareness of the specific content of the performance, which often cannot be foreseen (vom Brocke, Zeit & Schmiedel, 2015).

As recently as in 2012 it was widely believed that “unstructured” processes cannot be modeled at all (Di Ciccio, Marrella & Russo, 2012). In consequence, within traditional process management such processes are de facto impossible to manage or improve on, as according to the definition of the Deming Circle or Thomas Davenport’s concept of Business Process Redesign, modeling is the first fundamental stage of management and innovation (Deming, 1986; Davenport, 1996). In this case, it seems obvious that in reality most of the processes within an organization in the knowledge-based economy are beyond the scope of traditional business process management. This group includes processes which are critical to the knowledge economy, such as research and development processes or processes pertaining to supplying products and services to clients.

Despite having reached the end of the cognitive potential of traditional process management and the end of a new, cohesive, theoretically sound concept, which would be able to respond to the needs of the organization, new methodologies, and tools pertaining to process management are still being developed in practice. Both process management and its supporting IT systems (Business Process Management Systems – BPMS), as well as case management and Case Management Systems (CMS), are evolving rapidly in response to the pressures exerted by the client (Szelągowski 2013). In contrast to theoreticians, creators and suppliers of implementation methodologies and BPMS systems had to take into consideration the fact that only 30% of processes within organizations are static.

Multiple companies which for years have been specializing in solutions supporting process management began to create solutions in the form of hybrids of BPMS and CMS (Appian, Bizflow, BOC, IBM, K2, Kofax, Pegasystems, ...). In turn, proponents of case management had to account for the requirements of the users in terms of preparing and agreeing on specific scenarios of performance, which are sometimes unofficial or have the form of suggestions (de facto predefined patterns or process scenarios). At the same time, the pressures of the users of Case Management System (CMS) tools have first led to the adoption of business rules, then process patterns, and finally process scenarios in the form of business process models prepared in different notations (Keirstead, 2013; ISIS Papyrus, 2016). For example, the Adaptive Case Management system offered by ISIS Papyrus allows for the modeling of processes in BPMN, EPC, and UML notations. At the same time, on March 12, 2012, Gartner published the first Magic Quadrant for BPM-Platform-Based Case Management Frameworks report (Gartner 2015a). Less than a week later, another Magic Quadrant For Intelligent Process Management Suites report was published, which was partly prepared by the same analysts and for the most part covered the same range of products (Gartner, 2015b). Furthermore, 2015 saw the publication of Gartner and Forrester's reports on traditional BPM Suites and Case Management systems, as well as similar fields of operation, document management systems (DMS), and workflow systems (Antunes & Mourão, 2010; Bider & Perjons, 2015). This multitude of analyses and reports on changes offered on the market of methodologies and IT systems shows just how intensely business process management is evolving. Also, how we are missing an in-depth reflection as regards management theory; one which would attempt to unify and provide direction to the numerous business experiences and the development of BPMS/CMS systems (Trkman, 2009).

## **6. The 4th wave of process management – „Business Process and Knowledge Management”**

The main requisite for the emerging 4th wave of process management is the cohesive use of business process management and case management in order to ensure ongoing efficiency and the constant refreshing of the competitive advantage of the organization, which is fragile in a hypercompetitive environment (D’Aveni, 1994).

Its focal assumption is the broadest use of the organization’s intellectual capital as the source of a competitive advantage thanks to:

- allowing for the ongoing, widespread use and creation of knowledge by the entire personnel of the organization in the course of performed business processes;
- managing processes not through data and information, but also thanks to the organization’s knowledge;
- rapid adaptation and eliminating the gap between business needs and IT solutions.

This leads to the natural bringing together of process management and case management. The integration of both concepts on the basis of acknowledging the material role of the personnel and the new role of management allows for the creation of a concept without the previously described deficiencies. It enables process management to allow for the ongoing, systemic opening of organizations to rapid, qualitative, unforeseen changes in the hypercompetitive environment. Process management in the knowledge economy cannot be limited to the routine, repeated execution of the same, even best-optimized and best-managed process. Because of the specific character of the business, it must also encompass unstructured processes, which require real-time knowledge management, and the execution of which is dependent on the knowledge (including the experience) of the knowledge worker, as well as the individual needs of the client (the context of execution). In effect, process management must be dynamic following the definition formulated at the beginning of the article, in order to allow knowledge workers the freedom to make full use of their knowledge (including tacit knowledge) in the course of all business processes performed within the organization.

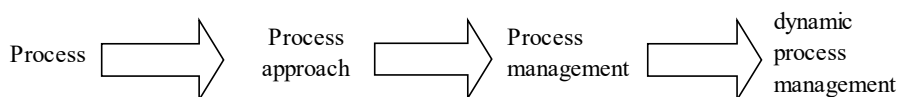
## **7. Conclusions**

In over 100 years of the development of business process management, the scope of its use in organizations hadchanged. In the course of the 1st wave of process management, which was initiated by Taylor’s works in 1911, it was limited to production processes alone. At present, process management is used in all fields of management, both within organizations and between

the organization and its surroundings. The approach to process management had been changing as well. At first, the aim of process management was the formulation and execution of an optimal, ideal method of work. Later, this goal has been supplemented with the side goal of constant process improvement. Later still, another goal of process management was to adapt processes to the changing needs of clients and the rules of competition (Armistead, Pritchard & Machin, 1999, 96-106; Smith & Fingar, 2003). As the article has demonstrated, changes to the concept of process management were introduced in reaction to changes in the conditions of holding business itself. Theoretical reflection supported practical attempts at adapting process management to the changing expectations of the organization. At present, there is also the need for critical theoretical reflection on traditional process management. The article also points to the direction of further developments of process management, which is primarily set by practical solutions. It is apparent that this direction is determined by two mutually stimulating and strengthening factors with large dynamics:

- the development of information and communication technologies (ICT);
- changes in business culture and social conventions.

The technical possibilities created in effect of the factors above, as well as the evolution of client needs, lead the evolution of process management in the direction of maintaining the efficiency of operations and the quality of the supplies products and services. As well as the direction of the ongoing, systemic adaptation of operations to the changing needs of the clients and the conditions of process performance. The aim is not just “operational perfection,” but also the ability to use the entire knowledge (the entire intellectual capital) of the organization in order to be able to offer individualized products and services at the time and place required by the client (Kohl, Orth & Steinhöfel, 2015).



**Figure 1.** The evolution of process management

**Source:** Bitkowska A. (2013). Zarządzanie procesowe we współczesnych organizacjach (Process management in modern organizations). Warszawa: Difin SA, 40.

This goal falls outside the scope of traditional process management. Its achievement requires the use of dynamic business process management, in which process performers can, in the range of process performance itself,



use their knowledge with the aim of adapting the performed processes to the requirements of the clients and the context of performance (Figure 1).

This knowledge is revealed and managed within the organization in a systemic manner, which allows the organization to broaden the scope and intensify the use of its intellectual capital to an extent which is not available with the use of traditional process management. Only then can process management extend not to 20%-30%, but to all of the processes in the organization in the knowledge economy. As experiences from recent years show, failing to notice or negating outright the ongoing changes will not stop the development of practical methodologies and tools pertaining to process management. It will not stop the integration of process management with case management, nor its integration with knowledge management. It will only widen the chasm between theoretical reflection and practical solutions implemented within the organization, as well as lead to growing confusion resulting from operating through trial and error. Unfortunately, “theory without practice is immaterial, and practice without theory is blind.” We are blind at present. Without a doubt, we are not at threat of being immaterial.

Changes to IT systems supporting process management described in this article have far exceeded their theoretical underpinnings. One substantive benefit of the emerging 4th wave of process management will be (or perhaps is at present):

- 1) Thanks to the adoption of experiences collected in the course of case management within dynamic business process management, process modeling will not only be focused on reflecting the current knowledge of the organization on its methods of holding business but also on the implementation and constant verification of current and new knowledge within the organization. This will allow for more rapid adaptation of the organization to the changing conditions of business.
- 2) The practical optimization of not just static processes, as has been the case to date, but also dynamic processes, which will considerably broaden the scope of using methodologies and BPM tools, and, in turn, bring about more benefits to the organization.
- 3) The implementation of knowledge management focused on acquiring knowledge during process performance, will considerably affect competitiveness and the pace of development of the organization in the knowledge economy (Jung, Choi & Song, 2006).

The group of beneficiaries of theoretical research within the concept of the 4th wave of process management will also include practitioners dealing with the preparation and implementation of process management methodologies and tools within organizations, including:

- suppliers of modelers and BPMS and CMS systems, as well as ERP/MRP/II;
- consulting and implementation companies operating in the field of process management and the broadly understood use of IT systems in management; and
- the public administration and business in the scope of both ongoing and planned implementation projects pertaining to process management, the digital economy, crisis management.

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# FRANCHISING AS A MODEL OF BUSINESS AND HOTEL DEVELOPMENT IN THE PROCESS OF MARKET GLOBALIZATION

**Małgorzata Sztorc<sup>1</sup>**

## **Abstract**

*The paper presents the structure of three hotel concerns operating in the European market, which has been formed over recent years due to their foreign expansion. At present, the global hotel market is occupied by both international hotel chains and autonomous hotels, for which the concept of franchising can be a suitable mode of operation. The most frequent presentation of the hotel business development is based on a dualistic approach: one involves bridging a development gap (the so-called development divergence), and the other involves the process of improving the position that an organization occupies in the environment (Machaczka, 1988). The globalization process in the modern economy leads to the internationalization of businesses. The aim of this paper is to present a model of business and hotel business development through franchising. The determinants of expansion and globalization factors are defined by the critical analysis of the literature. The corporate globalization model is analyzed, and the concept of offensive development and business expansion are indicated, which results from the application of franchise in the asset-light business model. In addition, the paper presents hotel concerns which employ this type of model of development and expansion into new markets.*

**Keywords:** *globalization, expansion, franchising, business model, hotel concern.*

## **1. Introduction**

Contemporary economic reality and increasing competition oblige businesses to search for a new method of market engagement. Consequently, hotel chains choose multiform activities to protect themselves against losing their prevailing competitive position to the benefit of their rivals. Thereupon

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corporations have the option of selecting one of the three variants: local market development, internationalization (expansion into international markets), or a defensive strategy (consolidation of the current position without further growth and development).

Franchising is a model of business and hotel business development, which wins the recognition of businesses in terms of both local and international operation. This kind of model provides a specific concept of operating on the market. Smith, Binns and Tushman (2010, p. 49) present a business model as a scheme of how a business configures a set of strategic choices relating to markets, customers, value propositions, organizational structure, competence, culture processes, and measures to create value and then capture it.

In addition, “a business model is considered to be a special management tool that enables a business to be perceived as a system from the angle of strategic management” (Sztorc, 2016, p. 68). The growing interest in franchising is particularly evident in developing countries. The Polish market is a good example, where 95 systems operated in the year 2000, and in 2016 -1170. Analogically, the number of franchising outlets in 2000 was 20,661 and in 2016- 71,000 (PROFIT System 2016).

Franchising makes it possible to create a positive image, build a reputation of a business on the market, and raise brand recognition. It also affects the possibility of benefiting from the synergy effect by means of creating a standardized hotel chain, as a result of applying strategic, capital and organizational potential of the cooperating partners.

Maintaining a high position on the market, and thus the development potential of autonomous hotels, makes it possible to cooperate with concerns that have strong capital and a strong position on the market. A modern business model based on franchising creates a distinctive economic bond that allows it to enhance the competitive position of an autonomous hotel.

## **2. The core of modern globalization**

Despite its versatility, the concept of globalization has not been explicitly defined. There is no common viewpoint in the literature of the subject; therefore it is not an easy task to formulate an accepted definition. Most authors characterize this phenomenon fragmentarily because of its complex, multi-dimensional and interdisciplinary nature. Apart from the different perspectives or scope of research, particular terms refer to sui generis an identical area. In particular, it should include sustained unification of operation at the level of the economy, industry and organization, intensification of the consolidation processes between entities, the establishment of a common global economic system, creation of international products, services and



activities, an autonomous transfer of intangible, and financial and human resources between countries.

Selecting one definition that would holistically treat globalization is a relatively difficult decisional task.

Nonetheless, it is possible to define the issue conventionally as “ the process of creating a liberalized and integrated world market of goods, services and capital and the development of a new international institutional order that fosters the production, trade and financial flows of the whole world” (Kołodko, 2001, p. 1). Transnational corporations are also important in developing world economic globalization (in the literature of the subject they are defined interchangeably as multinational, international, super-national, and global). According to Liberska (2002, p. 96), globalization is accomplished by extending and deepening the interdependence between countries, regions due to increasing international flows and the activity of transnational corporations, resulting in new qualitative links among firms, markets, and economies.

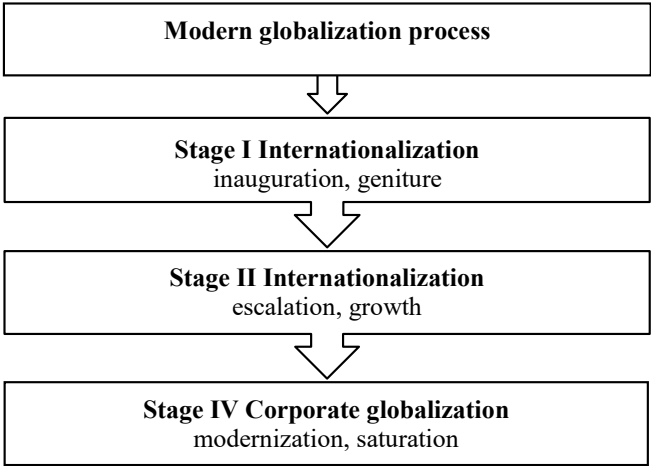
Thus, it must be stated that globalization incorporates the principal, highly diversified and developed stage of internationalization in the organization operation, which develops at three levels: global economy, sectors, and businesses. Therefore, globalization is “a specific case of internationalization of economic entities” (Gorynia, 2007, p. 51). It is a key step in internationalization, which pertains to the perception of a “global village” as a common market where unprecedented growth has taken place and a significant intensification of relations between states, determined by reciprocal transfers of capital, technology, knowledge, entities, people and products/services (globalization determinants make its position constantly grow in the world economy). According to Levitt (1983, pp. 19-20), corporate expansion contributes to perceiving the international market as a global village). In this paper, internationalization is broadly understood as a process of increasing corporate engagement in international activities (Welch & Loustarinan, 1988, pp. 87-99). This kind of mechanism leads to combining and concentrating on markets through internationalization of production, and undertaking activities within the scope of marketing –mix as well as applying global strategies of development and operation by corporations.

Therefore, it is advisable to analyze the globalization procedures owing to which we can distinguish the consecutive stages of evolution and determine their characteristic features. Figure 1 illustrates the four basic dimensions in the development of globalization processes.

The figure above shows that the main symptom of individual stages of the globalization process is the transfer of responsibility for creating development circumstances from countries to global organizations. On the other hand, the integration phenomenon is the main globalization factor. The integration

proceeds at three levels: macro, mezzo, micro and extends its scope over larger and larger geographical areas. As a consequence, complex interdependencies that shape congeneric and subordinated global structures are formed between the organizations concurring in the process of global integration.

When analyzing this kind of phenomenon, it should be emphasized that it is connected with the emergence of multinational corporations.



**Figure 1.** Four stages of globalization processes development

**Source:** the author’s study on the basis of Blomstermo & DeoSharma (2003, p. 31), Wiedersheim-Paul, Olson & Welch (1978, p. 48), Ozimiewicz & Michałowski (2013), Flejterski & Wahl (2003), Gorynia & Jankowska (2008).

Thus the so-called corporate globalization is the indication of the fourth wave of globalization within the economic approach (Rosińska, 2009). It consists of an offensive development of international organizations, which owing to expansion strategies develop their operations on new, usually capital, markets (direct foreign investment-DFI) or non-capital (e.g., outsourcing, franchising, transferring license). The international expansion means “every type of activity undertaken by a business beyond the country’s borders, which consists of expanding its business activities” (Stawicka, 2013, p. 72). For the purpose of this paper, the issue will be considered from the perspective of the fourth stage of corporate globalization.

### **3. Transnational corporations as the entities of the corporate globalization process**

According to international companies, the process of corporate globalization indicates a specific concept of managing an organization, defined as management in global environment. It also means targeting world markets and focusing on a global production factors. Corporate globalization is presented in the literature of the subject from the perspective of a multidimensional border-crossing process of expansion of transnational corporations, whose scope is determined by the maximization of profits. The progressive increase in the role and importance of transnational corporations is the effect of the analyzed procedure (Marzęda, 2007). As a result of this process, Doz and Hamel (2006) indicate further determinants in the development of global businesses, namely entering the so far inaccessible markets, the realization of the so far unexploited potential for growth and profits as well as competitive advantage. In addition, they believe that globalization is a concept different from the pre-existing forms of national and international competition.

An analysis of the corporate globalization model allows us to distinguish three dimensions: static, dynamic, and systemic. According to the first approach, it involves a number of events caused or related to the operations of transnational corporations, both on a micro scale (with reference to the very corporations) and macro scale (as compared to the entire world economy). The dynamic direction is set by the border-crossing process of corporate expansion. On the other hand, the systemic approach results from the so-called transnational practices, which relate to the stages of crossing borders and involve three areas: economic, political, cultural and ideological. The transnational corporations are the basis of this approach (Marzęda, 2007). Thus, from the organizational level globalization sets the concept of organization management in a global environment. It is focused on international markets and competition and employs global factors of production (Kutschker & Schmidt, 2011). According to the standpoint presented, globalization is a corporate strategy in a sustainable manner conditional on the global economy and global recovery.

Corporatism expresses the fourth phase of globalization, generally understood as the operation of organizations in many countries while maintaining their subsidiaries which are controlled by the headquarters (Stoner & Freeman, 2001). In addition, global corporations operate within diverse structures (inter alia chains) of international scope, which is created depending on the adopted strategy. Individual businesses within a particular corporation, to a certain extent, report to the supreme management and control system.

In the literature on the globalization of the hospitality industry, there is also no common definition of the hotel corporation. This term has various meanings, including hotel concern, hotel chain, hotel group, and hotel system. The essence of corporatism can be thoroughly presented by indicating specific and distinctive features differentiating transnational corporations from other organizations. Their principal characteristic is the global decentralization of operations, resources, units fulfilling their tasks in order to employ the right conditions of production and adapt more favorably to the diverse market circumstances.

Thus, among the key features of international corporations are: “complexity, sovereignty, geographical dispersion, creation of knowledge, global effectiveness, integration, specialization, networking, flexibility and arbitration” (Zorska, 2007, pp. 96-98). Because of these determinants, global businesses are considered to be a specific model of organization operations in the global economy.

#### **4. Methodological concept**

The objective of the research was to present the model of hotel business development through franchising. The presentation of the resources of the hotel chains owned by the concerns: InterContinental Hotel Group (IHG), Marriott International (MI) and Hilton Worldwide (HW) were the determinants for exploration.

The key determinants of business model, development and expansion into new markets from a global perspective were identified on the basis of observations over time. The subject, purpose and nature of research were taken into account when selecting the sources of research material. The research material consisted of statistical data and information from trade reports. Moreover, theoretical and analytical considerations were based on critical literature review and case study methods. Elements of this kind were the essence of the discussion of the business model adopted by the concerns, which resulted from expansion and franchising. The studies also involved an analysis of secondary data, the results of which made it possible to conclude the choice of franchising as a method for developing global hotel concerns.

#### **5. Employing franchising in the context of globalization of the hotel market**

Globalization of hospitality industry by entering new markets of hotel corporations, lack of balance in the environment and the ever-increasing competition in the hotel services sector make hotel businesses look for new

opportunities for development and growth and remaining on the market. International concerns in the travel and catering industry usually employ development concepts involving: franchising, managerial contracts, strategic alliances, joint ventures, leasing, mergers, and acquisitions. The choice of the way of operating depends on the business model adopted by the organization (Čerović, 2002, p. 14).

The franchise system is defined as the process of selling goods and services, (and sometimes technology as well), conditional on the direct cooperation of independent entities-the franchisor (the concept owner) and the franchisee. The franchisor provides a set of management procedures and guidelines for the franchisee. The essence of franchise consists in “giving the right and imposing the obligation of running a hotel business in line with the concept developed by the franchisor” (Sztorc, 2010, p. 94). Franchising indicates not only the method of dynamic expansion and development but also an alternative way of financing economic initiatives and the system for enhancing professional activation (Golawska-Witkowska, Rzeczycka & Mazurek-Krasodomska, 2014).

The attractiveness of the franchise system is indicated by the fact that this form of development is used by 73% of hotels operating in the global market. In the United States, 81% of hotel concerns run this type of business (McKenney, 2016, pp. 11-13). They are currently expanding into new markets in Asia and Europe, where they are developing through franchising. On the European market, this type of hotel growth is still underdeveloped. The largest number of hotel franchise chains operates in Germany, Great Britain, France, Italy and Spain. On the other hand, on the Polish market and in Eastern European countries the franchise system remains at an early stage of development (Sztorc, 2010). The determinants of a franchise business operating in any industry are to a large extent identical and consist in implementing the concept of development through territorial expansion without the involvement of investment capital. From the perspective of a hotel, concern franchising is a tool for executing a designated growth concept, generally by increasing the accommodation capacity.

The situation is due to the territorial expansion into individual target markets as well as selecting a suitable accommodation facility that is ready to join the global network.

Provided it is considered by the franchisor as a hotel with an appropriate position against its competition (Nohria & Kosar, 2010, p. 103). Three of the largest hotel concerns (Table 1) were selected for further analysis: IHG, Hilton, Marriott. Their development through franchising in the European countries was presented.

**Table 1.** The largest hotel concerns in the years 2007-2016

Hotel concern name	Number of hotels/Years									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Marriott International	2999	4186	3178	3545	3718	3800	3916	4175	4424	5974
Hilton Worldwide	3000	3265	3265	3671	3843	3966	4115	4322	4556	4922
IHG	3949	4186	4438	4437	4480	4602	4653	4840	5032	5099
Wyndham Hotels Group	6544	7043	7043	7207	7205	7342	7485	7645	7812	8254
Choice Hotels	5570	5827	5827	6142	6178	6725	6340	6300	6423	6486

**Source:** the author's study on the basis of Hotels 325 (2007, p. 4), Hotels 325 (2008, p 3), Hotels 325 (2009, p. 6), Hotels 325 (2010, p. 5), Hotels 325 (2011, p. 5), Hotels 325 (2012, p. 8), Hotels 325 (2013, p. 7), Hotels 325 (2014, p. 12), The Wins of Change 325 Hotels (2016, p. 27).

Among the hotels listed in Table 1, the largest increase in hotels in the years 2007-2016 was noted by Marriott at 2975, followed by Hilton-1922, Wyndham-1710, IHG-1150, Choice-916, and Accor-71. The development of the hotel chains through franchising on the European market will be presented based on a profile of the largest number of hotels in the franchise system (Table 2).

**Table 2.** The number of hotels within franchise system ( 2007-2016)

Hotel concern name	Years/number of hotels									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Marriott International	1922	2079	2229	2391	2467	2553	2672	2882	1116	4012
Hilton Worldwide	2463	2774	2936	3135	3205	3312	3420	3608	3857	4175
InterContinental Hotels Group	3392	3585	3623	3783	3832	3934	3955	4096	4219	4267
Wyndham Hotel Group	6544	7016	7089	7177	7192	7293	7425	7585	7727	8254
Choice Hotels International	5570	5827	5921	6142	6178	6243	6340	6300	6423	6510

**Source:** the author's study on the basis of Hotels 325(2007, p. 8), Hotels 325 (2008, p. 10), Hotels 325 (2009, p. 13), Hotels 325 (2010, p. 2), Hotels 325 (2011, p. 10), Hotels 325 (2012, p. 14), Hotels 325 (2013, p. 13), Hotels 325 (2014, p. 11), The Wins of Change 325 Hotels (2016, p. 23).

In the years 2007-2016 there was an increase in the number of hotels operating as a franchise in the concerns Wyndham, Choice, IHG, and Hilton. In the last decade, the hotel market in Europe has undergone significant changes. They consisted primarily in the disposal of tangible assets of hotels, whose requirements differed from the quality standards of a particular chain, and

its modernization was unprofitable and costly. Therefore, most global hotel concerns employ a form of leasing or sell hotels, in order to focus exclusively on management contracts or franchise. The funds acquired from them are used to finance the expansion into foreign markets with new hotel chains. This kind of policy was initiated in the 1990 and is called *asset-light business*. It is based on the idea of running hotels in facilities owned by external investors. As a result, via this model, concerns are able to extend their product range by launching other hotel brands. Low capital absorption makes the corporation much more agile, and thus resistant to market fluctuations. Concentration on the key competence, i.e., hotel services, contributes to increasing the competitiveness of the network on the market. As a consequence of this process, the concern will be able to guarantee a more profitable return on the investment for its shareholders. This type of model is implemented by IHG, which is focused on strengthening the resources of the brands offered, achieving economies of scale and maximizing hotel profits. In 2016, the concern had 5099 hotels with 754,265 rooms, which were owned by eleven hotel chains operating in four market segments (IHG, 2016, p. 51): 1. Luxury: InterContinental Hotels & Resorts, HUALUXE Hotels and Resorts; 2. Upscale: Hotel Indigo, Even Hotels, Crowne Plaza Hotels & Resorts; 3. Mid-scale: Holiday Inn, Holiday Inn Express, Holiday Inn Resort, Holiday Inn Club Vacations; 4. Extended stay: Staybridge Suites, Candelwood Suites.

In 2016 IHG owned eight hotels, i.e., fewer than 1%, 824 were managed and 4267 signed franchise contracts (InterContinental Hotels & Resorts, 2017, p. 77). Thus, it should be stated that the expansion and development of new hotels are carried out primarily through franchising. This situation is indicated by a growing structure of facilities each year, where franchised and managed hotels dominate. On the other hand, accommodation chains that are individually owned or leased constitute a small volume (Table 3).

**Table 3.** Hotel chains of the IHG concern according to the asset-light business model in the years 2014-2016

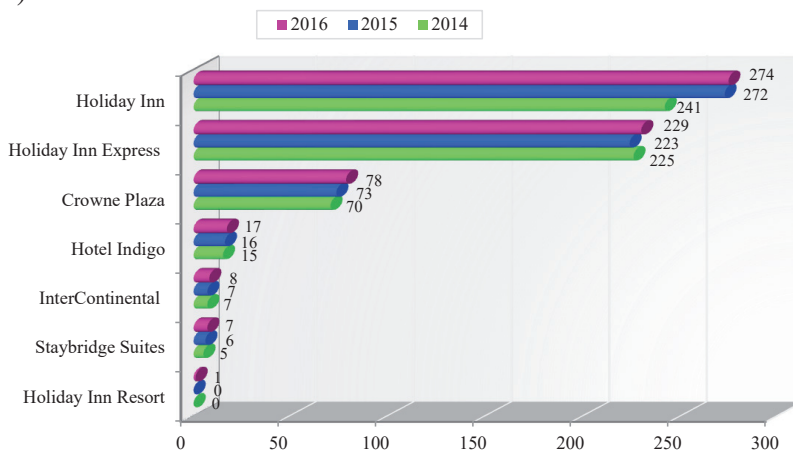
Hotel network/market	Number of hotels/business model								
	Franchising			Management			Ownership/ Leasing		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
United States	<b>3477</b>	<b>3511</b>	<b>3596</b>	<b>217</b>	<b>286</b>	<b>287</b>	<b>5</b>	<b>5</b>	<b>6</b>
InterContinental	27	27	26	22	23	22	1	1	1
Kimpton Hotels & Restaurants	-	-	-	-	66	63	-	-	-
Crowne Plaza	170	168	153	11	12	12	-	-	-
Hotel Indigo	36	35	41	3	3	4	-	-	-

Hotel network/market	Number of hotels/business model								
	Franchising			Management			Ownership/ Leasing		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
EVEN Hotels	-	-	1	-	-	1	2	2	3
Holiday Inn	751	745	705	17	18	16	2	2	1
Holiday Inn Express	2059	2084	2136	1	1	1	-	-	-
Holiday Inn Resorts	-	-	22	-	-	-	-	-	1
Holiday Inn Club Vacations	-	-	22	-	-	-	-	-	-
Staybridge Suites	171	181	195	26	26	26	-	-	-
Candelwood Suites	261	269	293	61	61	61	-	-	-
Other	2	2	2	76	76	81	-	-	-
<b>Europe</b>	<b>565</b>	<b>599</b>	<b>615</b>	<b>81</b>	<b>43</b>	<b>47</b>	<b>1</b>	<b>0</b>	<b>0</b>
InterContinental	7	7	8	22	22	23	1	-	-
Crowne Plaza	70	73	78	13	10	11	-	-	-
Hotel Indigo	15	16	17	2	2	3	-	-	-
Holiday Inn	241	272	274	43	8	8	-	-	-
Holiday Inn Express	225	223	229	1	1	2	-	-	-
Holiday Inn Resort	-	-	1	-	-	-	-	-	-
Staybridge Suites	5	6	7	-	-	-	-	-	-
Others	2	2	1	-	-	-	-	-	-
<b>Asia, Near East, Africa</b>	<b>50</b>	<b>53</b>	<b>52</b>	<b>201</b>	<b>202</b>	<b>217</b>	<b>2</b>	<b>2</b>	<b>2</b>
InterContinental	7	7	7	59	58	60	1	1	1
Crowne Plaza	10	10	9	59	58	62	-	-	-
Hotel Indigo	-	-	-	-	1	2	-	-	-
Holiday Inn	22	24	21	62	63	54	1	1	1
Holiday Inn Express	9	10	10	15	17	22	-	-	-
Holiday Inn Resort	-	-	3	-	-	11	-	-	-
Staybridge Suites	-	-	-	3	3	3	-	-	-
Other	2	2	2	3	2	3	-	-	-
<b>China</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>236</b>	<b>236</b>	<b>273</b>	<b>1</b>	<b>1</b>	<b>0</b>
InterContinental	1	1	1	31	32	37	1	1	-
HUALUXE	-	-	-	-	2	3	-	-	-
Crowne Plaza	-	-	-	73	70	76	-	-	-
Hotel Indigo	-	-	-	5	5	5	-	-	-
Holiday Inn	2	2	2	71	70	73	-	-	-
Holiday Inn Express	1	1	1	54	54	68	-	-	-
Holiday Inn Resorts	-	-	-	-	-	6	-	-	-
Other	-	-	-	2	3	5	-	-	-

**Source:** the author's study on the basis of (IHG, 2017, p. 10), InterContinental Hotels & Resorts (2015, p. 18), InterContinental Hotels & Resorts (2016, p. 42), InterContinental Hotels & Resorts (2017, p. 37).



As can be seen from the table above and Figure 2, the development of the IHG concern on the European market is achieved through franchising of mid-scale hotel chains, usually two or three- star-hotels: Holiday Inn and Holiday Inn Express. The other facilities are distinguished by competitive prices owing to a limited range of services they provide. On the European market operate 622 hotels owned by the IHG concern, 615 of them operate as franchise chains (Figure 2).



**Figure 2.** The number of hotels owned by the franchise chain of the IHG concern in Europe (2014-2016)

**Source:** the author's study on the basis of IHG (2017, p. 56 ), InterContinental Hotels & Resorts (2017, p. 78).

Another corporation employing franchising as a strategy for expansion into new markets is Marriott International. It currently has 5756 accommodation facilities of varying standard and scope of services, which are located in 120 countries of America, Asia, Europe, Near East and Africa. It has 28 hotel brands in the following market segments (Marriott International Inc., 2017, pp. 108-110): 1. Luxury: JW Marriott, STRegis, The Ritz-Carlton, The Luxury Collection, Bulgari Hotels & Resorts, W Hotels, Edition; 2. upper upscale: Marriott Hotels, Sheraton, Delta Hotels, Marriot Executive Apartments; Westin Hotels & Resorts, Le Meridien, Autograph Collection Hotels, Renaissance Hotels, Tribute Portfolio, Gaylord Hotels; 3. upscale: Courtyard Marriott, Four Points by Sheraton, Springhill Suites Marriott, Residence Inn Marriott, AC Hotels Marriott, aloft Hotels, element by Westin; 4. upper mid-scale: Protea Hotels, Fairfield Inn & Suites, Towne Place Suites Marriott, moxy Hotels.

Marriott International hotels use the asset-light business model which is usually based on franchise and management. A small part of hotel chains own properties belonging to the concern (Table 4).

**Table 4.** Hotel chains of the Marriott International concern according to the business model in the years 2014-2016

Hotel network/market	Number of hotels/business model								
	Franchising			Management			Ownership/ Leasing		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
<b>America</b>	<b>2543</b>	<b>2822</b>	<b>3030</b>	<b>694</b>	<b>719</b>	<b>701</b>	<b>0</b>	<b>0</b>	<b>25</b>
Marriott Hotels	185	199	208	129	133	130	-	-	4
JW Marriott	8	10	10	25	14	15	-	-	-
Renaissance Hotels	-	51	57	33	28	26	-	-	1
Autograph Collection Hotels	34	51	58	1	3	3	-	-	-
Delta Hotels and Resorts	-	11	12	-	26	25	-	-	-
Gaylord Hotels	-	-	-	5	5	5	-	-	-
The Ritz-Carlton	-	1	1	38	39	39	-	-	-
The Ritz-Carlton Resi- dence	-	1	1	30	31	34	-	-	-
EDITION	-	-	-	-	2	2	-	-	-
EDITION Residence	-	-	-	-	1	1	-	-	-
Courtyard	582	631	673	276	276	256	-	-	19
Residence Inn	534	571	601	107	111	114	-	-	1
Fairfield Inn & Suite	703	744	807	4	5	5	-	-	-
Spring Hill Suites	282	303	322	29	30	31	-	-	-
Towne Place Suites	215	249	278	17	15	15	-	-	-
AC Hotels by Marriott	-	-	-	-	-	-	-	-	-
Moxy Hotels	-	-	2	-	-	-	-	-	-
<b>The other continents</b>	<b>251</b>	<b>202</b>	<b>898</b>	<b>453</b>	<b>464</b>	<b>1091</b>	<b>80</b>	<b>0</b>	<b>46</b>
Marriott Hotels	40	37	43	140	143	150	-	-	4
JW Marriott	4	3	6	40	49	45	-	-	1
Marriott Executive Apart- ments	-	-	-	27	28	28	-	-	-
Renaissance Hotels	28	26	25	53	53	50	-	-	3
Autograph Collection Hotels	19	31	36	3	3	3	5	-	-
The Ritz-Carlton	-	-	-	47	50	50	-	-	2
The Ritz-Carlton Resi- dence	1	-	-	9	8	8	-	-	-
The Ritz-Carlton Serviced Apartments	-	-	-	4	4	4	-	-	-
EDITION	1	1	-	1	1	1	-	-	-
Bulgari Hotels & Resorts	1	1	1	-	-	2	-	-	-
Bulgari Residences	-	-	-	2	1	1	-	-	-
Courtyard	57	44	54	66	69	75	-	-	3

Hotel network/market	Number of hotels/business model								
	Franchising			Management			Ownership/ Leasing		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
Residence Inn	18	2	2	6	5	5	-	-	1
Fairfield Inn & Suites	18	1	2	1	3	7	-	-	-
AC Hotels by Marriott	4	-	-	1	-	-	75	-	-
Protea Hotels	59	55	51	53	47	36	-	-	10
Moxy Hotels	1	1	4	-	-	-	-	-	-
Sheraton	-	-	220	-	-	216	-	-	9
Westin	-	-	99	-	-	113	-	-	3
Le Méridien	-	-	27	-	-	78	-	-	-
Luxury Collection	-	-	44	-	-	51	-	-	3
W Hotels	-	-	-	-	-	46	-	-	3
St. Regis	-	-	-	-	-	34	-	-	3
Tribute Portfolio	-	-	10	-	-	2	-	-	1
Four Points	-	-	163	-	-	61	-	-	-
Aloft	-	-	91	-	-	23	-	-	-
Element	-	-	20	-	-	2	-	-	-

**Source:** the author's study on the basis of Marriott International (2015, p. 107-111) Marriott International (2016, p. 87-90), Marriott International (2017, p. 116-121).

The Marriott International concern expanded the franchise hotel chain in the years 2014-2016 in Asia, Europe, Near East and Africa by 647 facilities. This situation is connected with the acquisition of the Starwood Hotels & Resorts concern, which operated mainly in the European market. Hilton Worldwide is another example of concern which operates globally and employs franchising as its development strategy.

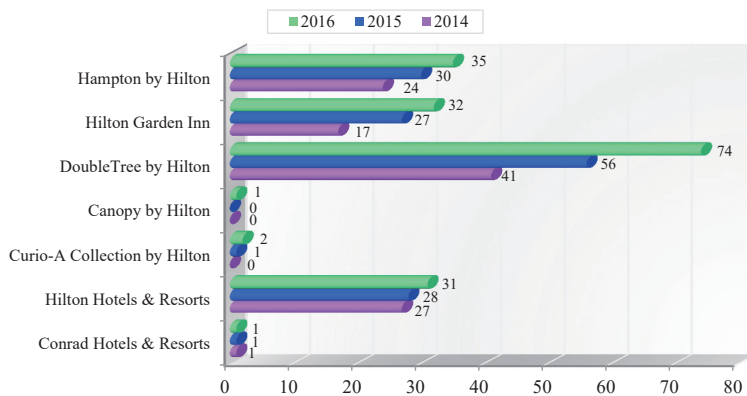
Currently, they have 14 hotel chains which offer services in 4820 hotels located in 104 countries for the following market segments (Hilton Worldwide, 2017, pp. 32-36): 1. luxury: Waldorf Astoria Hotels & Resorts, Conrad Hotels & Resorts; 2. upper upscale: Hilton Hotels & Resorts, Curio a Collection by Hilton, Embassy Suites by Hilton; 3. upscale: DoubleTree by Hilton, Hilton Garden Inn, Homewood Suites by Hilton; 4. upper mid-scale Hampton by Hilton, Home 2 Suites by Hilton, Canopy by Hilton; 5. timeshare: Hilton Grand Vacations.

The hotel chains of the Hilton concern, which employ the asset-light business model to expand into global markets are presented in Table 5. On the other hand, Figure 3 illustrates hotel chains operating in the European market. **Table 5.** Hotel chains of the Hilton concern operating on global markets between 2014-2016

Hotel network/market	Number of hotels/business model								
	Franchising			Management			Ownership/Leasing		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
<b>America</b>	<b>3193</b>	<b>3714</b>	<b>3974</b>	<b>258</b>	<b>248</b>	<b>243</b>	<b>55</b>	<b>60</b>	<b>56</b>
Waldorf Astoria Hotels & Resorts	1	1	1	12	9	10	2	4	4
Conrad Hotels & Resorts	1	1	1	4	3	4	-	-	-
Hilton Hotels & Resorts	192	192	197	64	63	59	26	28	28
Curio-A Collection by Hilton	4	15	26	1	1	1	-	1	1
DoubleTree by Hilton	265	291	306	32	32	32	11	11	10
Embassy Suites by Hilton	164	178	186	45	37	36	10	10	10
Hilton Garden Inn	278	597	629	8	11	12	2	2	2
Hampton by Hilton	1915	2004	2103	57	61	60	1	1	1
Homewood Suites by Hilton	329	360	391	30	27	27	-	-	-
Home2 Suites by Hilton	44	72	129	1	1	-	-	-	-
Other	-	3	5	4	3	2	3	3	-
<b>Europe</b>	<b>110</b>	<b>143</b>	<b>176</b>	<b>98</b>	<b>102</b>	<b>95</b>	<b>74</b>	<b>72</b>	<b>71</b>
Waldorf Astoria Hotels & Resorts	-	-	-	4	4	4	2	2	2
Conrad Hotels & Resorts	1	1	1	2	2	2	1	1	1
Hilton Hotels & Resorts	27	28	31	54	57	44	71	69	68
Curio-A Collection by Hilton	-	1	2	-	-	-	-	-	-
Canopy by Hilton	-	-	1	-	-	-	-	-	-
DoubleTree by Hilton	41	56	74	13	11	12	-	-	-
Embassy Suites by Hilton	-	-	-	-	-	-	-	-	-
Hilton Garden Inn	17	27	32	18	18	20	-	-	-
Hampton by Hilton	24	30	35	7	10	13	-	-	-
Homewood Suites by Hilton	-	-	-	-	-	-	-	-	-
Home2 Suites by Hilton	-	-	-	-	-	-	-	-	-
<b>Near East, Africa</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>57</b>	<b>64</b>	<b>67</b>	<b>7</b>	<b>7</b>	<b>7</b>
Waldorf Astoria Hotels & Resorts	-	-	-	3	3	3	-	-	-
Conrad Hotels & Resorts	-	-	-	2	2	3	1	1	1
Hilton Hotels & Resorts	1	1	1	44	45	45	6	6	6
Curio-A Collection by Hilton	-	-	-	-	-	1	-	-	-
DoubleTree by Hilton	4	4	4	7	9	9	-	-	-
Embassy Suites by Hilton	-	-	-	-	-	-	-	-	-
Hilton Garden Inn	-	-	-	1	5	6	-	-	-

Hotel network/market	Number of hotels/business model								
	Franchising			Management			Ownership/Leasing		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
Hampton by Hilton	-	-	-	-	-	-	-	-	-
Homewood Suites by Hilton	-	-	-	-	-	-	-	-	-
Home2 Suites by Hilton	-	-	-	-	-	-	-	-	-
<b>Asia</b>	<b>12</b>	<b>13</b>	<b>20</b>	<b>113</b>	<b>130</b>	<b>154</b>	<b>8</b>	<b>7</b>	<b>7</b>
Waldorf Astoria Hotels & Resorts	-	-	-	2	2	2	-	-	-
Conrad Hotels & Resorts	1	1	2	11	11	14	-	-	-
Hilton Hotels & Resorts	8	8	7	59	68	77	8	7	7
Curio-A Collection by Hilton	-	-	-	-	-	-	-	-	-
DoubleTree by Hilton	2	2	2	35	41	45	-	-	-
Embassy Suites by Hilton	-	-	-	-	-	-	-	-	-
Hilton Garden Inn	-	-	-	6	8	16	-	-	-
Hampton by Hilton	1	2	9	-	-	-	-	-	-
Homewood Suites by Hilton	-	-	-	-	-	-	-	-	-
Home2 Suites by Hilton	-	-	-	-	-	-	-	-	-

**Source:** the author's study on the basis of Hilton Worldwide (2015, pp. 102-107), Hilton Worldwide (2016, pp. 131-135), Hilton Worldwide (2017, pp. 51-56).



**Figure 3.** Number of hotel networks of the Hilton concern in Europe (2014-2016)

**Source:** the author's study on the basis of Hilton Worldwide (2017, pp. 64-69).

As can be seen from Table 5 and Figure 3, the Hilton concern increases its assets each year through management contracts and new facility locations.

The expansion into European market involves mainly facilities with upscale and upper midscale standard.

## **6. Conclusions**

The discussion presented in the paper supports the conclusion that franchising is a business model leading to the development of hotel concerns in a globalized market environment.

The expansion of an organization through franchising seems to be one of the most beneficial solutions to concerns that currently have a national franchise system. This kind of situation results from their experience in operating by employing this kind of development concept.

Under global market conditions, the fundamental principle of developing a franchise system abroad is to own a suitable and extensive accommodation base in your home country. The internationalization of operations provides hotel concerns with a competitive advantage in the global market by offering new opportunities for growth. Moreover, franchising facilitates international expansion as it allows the exclusion of certain determinants that impede access to foreign markets. The research shows that franchising is a proven method of development and expansion of the global hotel chains.

On the basis of the research of the global hotel corporations including IHG, Marriot, and Hilton, it is important to note that the development of franchise hotel chains is part of a competitive struggle which makes it possible to gain market share in less time than by building their facilities. The analysis of the indicated concerns supports the conclusion that the current trend in their development is the diversification of hotel brands and the dynamic growth of hotels operating in the economic market segment. As a result of the research, it should be recognized that the internationalization of business by means of franchising makes it possible to gain new markets of operation owing to expansion into new segments, where the demand for hotel services of the analyzed hotel chains is still unsatisfied.

The market operation of concerns is one of the strategic areas of management analysis, which is most often associated with the concept of expansiveness and development. Therefore, it seems necessary to conduct research into this subject in the long-term perspective. Thus, further consideration should be given to whether the business model resulting from franchising has the potential to transform itself in the longer term into one of the key strategies for development of global hotel concerns.

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## JUSTIFICATION OF USING TWO DIMENSION GRAPHIC CODES (QR) IN MARKETIRNG ACTIVITIES

Grzegorz Szyjewski<sup>1</sup> and Luiza Fabisiak<sup>2</sup>

### Abstract

*Modern models of marketing are used as methods of promotion, brand image building and sales support in organizations. All those activities are preceded with mainly ICT tools use. Modern models of marketing can help by using multimedia communication with interactivity, launched by two-dimensional graphic code. Two-dimensional QR codes create the connection between analog and digital marketing tools. The code saved and made available to the consumer in its printed form can be used as a gateway through which (often unaware) the customer becomes introduced to the world of electronic marketing. The potential of such promotion is enormous, and it is observable in the current marketing trends. However, it is worth considering whether the potential customers' society is prepared to use that technology. The problem is that there is a risk that the code's interactive post will never reach the recipient. The question which arises is about the effectiveness of the form's message, in practical use.*

*In order to verify the problem of the legitimacy of QR codes use, the source data was collected from the answers given to the question how well QR codes are recognized as a way of communication. The practical ability to use this channel of communication was also explored. The data was gathered from the electronic questionnaire, which was conducted among people between the age of 19-23. The decision model used in the work presents sequential decision-making, depending on the achieved situation.*

**Keywords:** QR codes, marketing tools, decision tree, Internet survey, multi-criteria optimization.

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## 1. Introduction

Modern models of marketing are used as methods of promotion, brand image building and sales support in companies. First of all, those methods use Internet, technology and the latest techniques. Nowadays, when we observe availability of the variety of products and services on the market, customer expectations are constantly increasing. That creates a very strong competition. Companies are trying to meet customer expectations and grow ahead of the others. They have to adapt quickly to market changes, following trends and customer preferences. Modern forms of marketing activities (Finne & Gronroos, 2009) like for example multimedia, with the ability to use interactivity can help the promotion process. That is an interesting supplement or even an alternative to the traditional marketing methods. It is about redirecting the recipient from the traditional channel of communication to the electronic one.

Establishing the transmission between the sender and the receiver is possible, for example, by using a two-dimensional QR code (Quick Response). The action consists of preparing a multimedia message, which is placed on a server with the possibility of remote access via the Internet. Then the URL address with the desired content should be coded in the graphical QR code. The code can be printed on any media. Scanning that code with any mobile device camera will immediately launch previously coded message on the server.

However, it is important to consider whether the potential customers' society is prepared for using that technology. The problem is that there is a risk that the code's interactive post will never reach the recipient. So the question which appears is whether in marketing activities it is worth dedicating the area designated to present the prepared message, for placing a readable code?

There is an additional cost associated with a new form of transmission preparation (on the server) to which the QR code will redirect the customer (Sullivan, 2011). On the one hand, we can establish a relatively cheap channel of unlimited interactive communication, using a rather small budget. On the other hand, the recipient may not want or even won't be able to use that form of communication. The message will not be then delivered. The space, which was used for placing the code, becomes ineffective. Using that space for a traditional message could have a much better effect. Additionally, we have an unnecessary expenditure, spent for the preparation of a multimedia message that will not be delivered to the recipient.

## **2. Marketing communication modern technologies**

Communication in marketing is considered as one of the most important elements determining to establish and then maintaining the relationship between the company and clients and other market players (Kwiatek, Leszczyński & Zieliński, 2009). The changes that can be observed in business marketing communications are also a response to new technological and social challenges. Their causes are primarily related to new channels and new ways of communication, which came as a result of the development of new media. There is an opportunity to interact with the customer so that you can immediately see if the message reaches the recipient (Ponduri & Bala, 2014). The primary purpose of marketing communication is the effective communication with the addressee. It is important that the message should be as easy to understand as possible. For the desired effect, the effectiveness of such communication is rather more important than its frequency (Andersen, 2001). The primary goal of marketing communication activities is to reach the recipient attention with the message prepared for that purpose. The attention of the recipient is an essential part of the final success, as it opens the channel to which the message can be successfully transmitted. It allows you to pass the desired content to the recipient, with a high probability that the message will be acquired by the recipient. Even the best-prepared message becomes useless when it does not reach the desired recipient. The current, massive amount of marketing communication tools makes the consumer engagement in the prepared strategy, an increasingly difficult task. Consequently, interactive tools (affecting as many senses as possible) are often used to allow greater involvement of the consumer (Wiechoczek, 2016). The constantly developing technology brings newer and better solutions, which give more, probable ways to use those solutions. One of the most important divisions in modern ICT is mobile technology. Currently, mobile, communication devices are equipped with features comparable to advanced computer units.

The traditional voice call feature is one of the many available, often not the most important one in using the device. Since mobile phones, transformed into smartphones and are connected wirelessly to the Internet, they have become inseparable companions of the everyday lives of most developed societies (Kang and Jung, 2014). At the same time, new opportunities have opened up to use these devices to achieve marketing objectives.

The mobile phone in the consumer's pocket, as the last chain of the network, became an output device easily delivering the message to the mobile owner. Additional features such as geolocation allow for even more efficient marketing activities. With information about the current location of the recipient, specific actions can be conducted, based on modern forms

of communication with the user (Reformat, 2016). Built-in, high-resolution, color display, vibration mechanism, large-image camera, microphone, or speakers, forms a set of tools that can stimulate several user's senses at the same time. That gives great opportunities for marketing and increasing the recipient's interest in the message. The message can now be not only multimedia feature but also it can be delivered directly to the "pocket" of the recipient. Essentially, it can also be personalized to customer's current needs and requirements (Weng & Liu, 2004).

From the verity of modern tools used to develop the information society, one is two-dimensional QR code (Quick Response Code) (Janiak, 2000): The marketing purposes of using the QR code use were also recognized. Multimedia messaging and unique product marketing in advertising campaigns are pointed out among the examples of using QR Codes. However, the most important is using the code as a link, which quickly transfers the user from the traditional (printed) message to the world of the Internet (Kieźel & Wiechoczek, 2016), where the possibilities of further multimedia presentations are almost endless. Thanks to the user quick and automatic redirection to the modern form of presentations, there is a chance of keeping the communication channel constantly open. Technically, the QR code is a graphical two-dimensional combination of fields, in two contrasting colors that can be compared to a chessboard. The code forms a square as well but, containing various sizes fields which are very irregularly located. They do not create any regular scheme. QR code works similar to the bar code, which is the basis for the automatic identification (Pons, ValleS, Abarca & Rubio, 2013). QR thanks to its two-dimensions (bar code has only one-dimension) allows to save in the form of a graphic object, more data than a bar code. In addition, thanks to placing three positioning elements in the corners of the QR code, it can be scanned from any position. There is no need to put the information about the up and down placement under the scanner device (Szyjewski, 2013). The tool described above gives tremendous opportunities in the marketing field.

On the other hand, that is a new way of establishing a communication channel, reserved so far for the world of electronic identification. It is commonly used in storage locations for a wide range of storage items, which need to be quickly identified. The fact of countless ways of QR codes used in communication, including marketing, is undisputed. However, the question, which occurs, asks if, at present stage of the development of the information society, it is justified to use QR code in marketing activities?

### 3. Source data

The source data was collected, to verify the stated problem and to answer the question: How recognizable QR codes are as a mean of communication? The practical ability to use this channel of communication was also explored. The data was collected in the form of an electronic questionnaire, which was conducted among people aged 19-23. It was assumed that in that age range we would find the biggest group of recipients who will be able to manage the task stated in the research. For most people in that age, a mobile phone with Internet access is basic and everyday use device. They are often unaware that life without permanent access to information was possible in the past.

The survey system used in the research is the author's solution. It was published as remote access to a server based on running PHP technology scripts and using MySQL database. And on the client's part, there were used simple HTML5, CSS3, and JavaScript technologies. An important issue in the conducted research is the fact that the survey was made available on desktop computers. Running the survey on a personal mobile device would block the possibility of scanning (on the same device) QR code displayed in one of the questions. It was also tried to keep the natural conditions, preventing the respondents from preparing earlier for the test they had been subjected to. It created the real situation where respondent was supposed to reflect the situation when he faces the QR code "here and now."

The survey consisted two phases. In the first respondents answered simple questions. Their answers helped to eliminate those who did not have necessary tools to be used in the further task. The negative response to one of the first two questions eliminated from further participation in the survey. The questions were as following:

- 1) Do you use a mobile phone?
- 2) Do you use an Internet access in your mobile?
- 3) Within the first part, we also collected data, which later allowed us to determine the profile of the respondent. These data were derived from the answers to the following questions:
- 4) Do you use printed coupons offering discounts on food or services?
- 5) Do you use the option to purchase and/or store tickets in your mobile? (cinema, theater, train, plane tickets)?
- 6) Do you use promotional coupons stored in your mobile using applications such as McDonald's, KFC, QPony, Apple Wallet, etc.?

In the second part of the survey, a QR code recognition test was used as the initiator of an interactive communication channel and its practical use. A sample marketing message containing a QR code was presented to the respondent. He or she had to make a declaration of whether he/she would be able to use such an offer. The marketing message used in the survey is illustrated in Figure 1.



**Figure 1.** Sample marketing message used in the survey

Respondents received the following request: “When entering to the electronics store to make a purchase, you see a poster shown below. Do you know what to do to get a discount?” The only possible answer was: YES or NO. Choosing the negative answer, the respondent was eliminated from further participation in the survey. It was also stated that the message prepared in such a form would not have reached him/her effectively. After selecting the positive answer, the next step was the practical verification of the given answer. The study uses modern technologies and the capabilities of QR technology. The next request, which appeared on the screen, was containing a QR code, with the command: “Scan the code now and see what it is hiding.” The code was generated individually for each questionnaire, and only the real scan resulted in the appropriate record in the database. Authors avoided the risk of misrepresentation, which could occur while respondents would have the possibility to check others’ answers. The message itself was not as important.

The purpose of the survey was the investigation whether the recipient would be able to initiate a communication channel using a two-dimensional QR code.

The scenario of the further steps of the survey strictly depended on the result of practical code scanning. If the process was successful, the respondent should answer next question: “How often do you use (scan) such codes?” He or she had four possible answers:

- 1) As soon as I see the code and if I have time, I always scan the code with curiosity.
- 2) I scan the code if I am interested in an offer.
- 3) I scan the code only if I could not find sufficient information in the traditional ad text.
- 4) I never scan QR codes.



Two-step survey allows you to verify the practical use of QR codes. It was about acquiring official data. The authors wanted to investigate how the respondent would behave if he/she sees the QR code right now, without any prior preparation for such research. That allows you to know the practical, opportunity to open a marketing communication channel, via a QR code. The survey was conducted in the second half of January 2017. The data collected during the survey was recorded in an electronic database for further analysis.

#### **4. Research methodology**

The research was based on the classification method, which allows to arrange the decision process and to model the decision situation. The data came from the questionnaires and formed the probability of respondents' answers. The research was done according to the decision tree analysis method. That technique allows investigating different decision processes (Breiman, Friedman, Olshen & Stone, 1984), where we can find decision order and where every next decision depends on the previous one (sequential processes). The decision tree was built by defining the goal of the research and the problem, which occurred after receiving surveys' results. Classification based on the decision tree resulted in a simple algorithm for decision support. Thanks to that algorithm it was easy to highlight the sequence decisions, and it became easy to examine the probability of criteria changes. The Bayes analysis was used in the research activities (Langey, Iba & Thompson, 1992), which takes into account occurrence of unexpected events. For example, the answer to the question about the familiarity of the QR codes and about the ability to use them, coming from most respondents, was wrong.

The method is dynamic. It is opposite to the classical analysis because it does not narrow the assessment in the decision-making process regarding one single answer. It provides results for all potential paths specified in the survey (Szczech, 2009).

The applied decision tree model presents sequential decision-making process, depending on the achieved situation. For the survey purposes, it fills the technical and economic parameters and evaluation criteria. This is an important issue in cause-effect analysis and multi-criterion optimization process. The guidelines of the conducted survey were used in the decision tree creation (criteria - sub-criteria - questions). As a result, we received a set of criteria and set of sub-criteria, which created the adaptive structure decision tree. The described decision tree is shown in Figure 2.



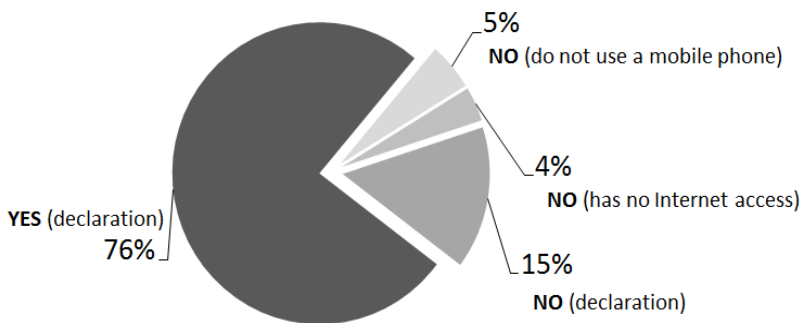
## **5. Empirical verification of the presented QR code evaluation - discussion**

The presented research is based on the results of an interactive electronic survey. A group of 234 respondents, students from the technical and economic universities in Szczecin were subjected to the research. Students from various faculties of the University of Szczecin and the West Pomeranian University of Technology participated in the research. The survey categorized all factors influencing the effectiveness of the use of two-dimensional graphic (QR) codes in marketing activities. Surveys were classified by the criteria (conditional criteria), which were included in the decision tree. The goal of the survey was to check the effectiveness of the use of 2D graphic codes (QR) in marketing activities.

The obtained data set shows that the examined population was characterized by values indicating high technological level. Almost 95% of respondents declared using every day a mobile phone. Moreover, more than 96% of them (over 91% of the total) admitted that they have access to the Internet directly through the mobile device. Nearly 63% of those declared that they use technology to buy and/or store tickets to the cinema, theater, train, or airplane. Almost 60% of them use their mobile as a channel to access promotional coupons related to promotional activities delivered by different companies or institutions. It can, therefore, be assumed that most of the examined group of people are aware and able to use modern ICT.

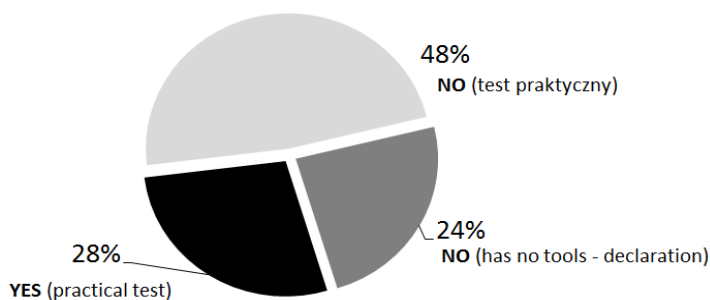
However, the most important step in the procedure was to find out what part of the surveyed people was able to open a marketing communication channel by scanning the QR code. 91% of the survey respondents joined the survey, as the remaining 9% declared that they did not have the proper equipment (5%) or access to the Internet (4%). In the first question of that stage, the data was derived from respondents' questionnaires.

As much as 83% of this group (76% of all respondents) said that they could use a promotion that was supposed to run by scanning QR code. The value at this stage would indicate that the use of QR codes in marketing communications is justified. It allows you to use all possibilities of IT channels through traditional (printed) media. In addition, 76% of potential forwarding traffic has declared no obstacles to the commencement of such communication (QR code scanning). The distribution of all respondents to each option is shown in Figure 3.



**Figure 3.** Distribution of declared skills/abilities of QR code scanning among respondents

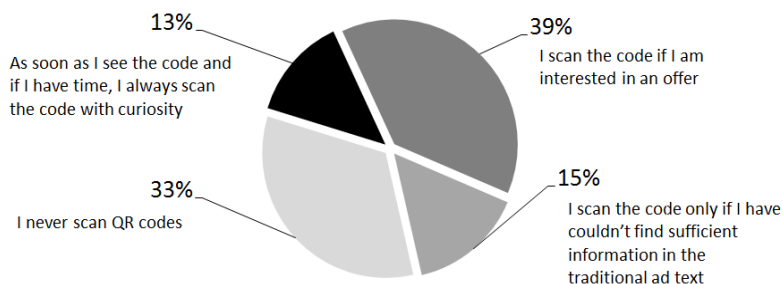
The use of the modern IT in the reliable survey system allows checking the declarations provided by the respondents. The goal of the study was to test people in real QR code scanning what they previously declared. Results obtained during this part of the research procedure, widely deny the thesis, stated during the theoretical part. While the advantages of using QR codes remain unchanged, the group of people using that communication channel decreased to 28% of the surveyed population. This decrease is due to the fact that only one in three from the testers group, declaring such skill, performed the scan correctly. The other two out of three did not know how to scan the QR code. The results obtained in the second stage are shown in Figure 4



**Figure 4.** Distribution of practical skills of QR code scanning among respondents

In relation to the achieved result, a question was asked, as part of the supplement to the practical test research. People who have scanned the code

correctly have been asked to indicate how often they use this type of tool. The popularity of each option is shown in Figure 5. The results indicate that every third person never uses that tool for launching a marketing communication channel. The form of that tool encourages only 13% of people who can use QR codes. They declare that they scan the code to satisfy their curiosity about hidden message. The highest percentage declared the most rational option. That group points to the desire to know the rest of the message, but only after they are interested in the content presented in the traditional form. 15% of the group use QR codes to gain additional information that was not included in the main marketing message.



**Figure 5.** How often people who can scan the code use that skill

Through the practical verification of the declared skills, we managed to obtain data that best describes the actual state of the researched phenomenon. It shows that only 28% of the surveyed people were able to launch a marketing communication channel by scanning two-dimensional graphic code. Another 24% of the group did not have the technical ability to use such communication or immediately declared a lack of appropriate skills. The fact that almost half of the respondents claimed that they could use QR code right away was the most important result of the study. Practical verification of this declaration revealed that 48% of the general public was wrong about the assessment of their skills. As a result of the combination of theoretical and practical results, it was found that two out of three respondents would not be able to run the message set in a QR code. Only one-third of respondents would be able to start that type of communication. In addition, every third person in the group who can use that communication channel declares that he or she does not do so in practice. That means that only 19% of the surveyed group would be reached by that type of marketing communication channel. That value indicates that the use of advertising space and the cost of preparing multimedia content as an additional message becomes unreasonable. If the percentage of people who can scan the code is added to the probability of doing so, the result will be

less than satisfying. The final value will indicate that the use of such a way of opening a marketing communication channel is ineffective.

## 6. Conclusions

The results form a basis for analyzing the current behavior of consumers. It concerns the legitimacy area and the subsequent efficiency of using 2D bar codes (QRs) in marketing. The decision tree method and probability were used as tools for the research. From the received results, it can be concluded that the reach of the consumer in the surveyed group, with the message via the QR code, is relatively low. It comes from a lack of ability or skills to communicate by scanning the QR code. Taking into account the characteristics of the study group, prognosis for the study conducted within other target groups is not very promising. It can be assumed that the surveyed group represents the lowest level of digital exclusion. At the same time, it is characterized by a high level of ability to use simple ICT services. Conducting the study in two stages (theoretical and practical), at the same time, allowing the extraction of low-quality data obtained from the questionnaire. In case the final thesis is based on the results obtained only from the theoretical part, its assumptions would be false. Only using new information and communication technologies allowed us to gain data describing the situation properly.

The thesis, based on the findings of the research, reveals the low usage of the QR codes in marketing communication channels. It is based on the analysis of high-quality data. The data was gathered by collecting theoretical declarations from respondents, then verified by a practical test of the tested skills of respondents.

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# RISK MANAGEMENT MODEL IN THE FORMULATION PHASE OF THE TECHNOLOGICAL PROJECT

**Ludmiła Walaszczyk<sup>1</sup>**

## **Abstract**

*In the 2014-2020 perspective, the calls for proposals are mainly directed to the entrepreneurs. It provokes the necessity to prepare the project applications to the consulting company by the entrepreneurs themselves or to sub-contract it. However, the preparation of the proposals by the applicants is more rationale, because they know best what will be developed and how to justify it. On the other hand, while writing the applications, it is indispensable to consider all risks that might happen during the preparation process and which can influence the further phases of the project execution. The author of the article presents the theoretical background how risk can be managed. The main aim of this article is to design the model for risk management, which is dedicated to the formulation phase of the technological project. In the process of the model design, the author used direct interview and modelling methods. The application of this model enables the entrepreneurs to prepare the project application with all necessary aspects taken into consideration, which should be fulfilled; otherwise, the project application can be rejected.*

**Keywords:** *risk, risk management, formulation phase, the 2014-2020 perspective, model for risk management.*

## **1. Introduction**

One of the ways to fulfil strategic aims of the enterprise is the execution of projects; thus it is important for the organization to apply for public funds in order to be able to launch projects and to manage them effectively. The project management is related to different kinds of initiatives (Trocki, Grucza & Ogonek, 2003). Taking into account the definition of Kisielnicki, the project management is “a set of tasks logically organized, which are not completely defined and sometimes only outlined.” The project management aims at “the execution of the planned aim, which is the increase of the intellectual capital.

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The result is the development of the theoretical and practical assumptions and plans to design a new product or service” (Kisielnicki, 2013).

According to the European Guide to the Evaluation of Socio-Economic Development (2004), the process of the project management includes the following phases: programming, planning, formulation, monitoring, closure of the project and the evaluation of the final results. Other authors also consider these phases, among others, Mingus (2002), Lewis (2007), Kerzner (2009), and Kanda (2011). In this article, the author considered the formulation phase and focused on the risk aspect, which should be taken into account during the development of the project proposal. Due to the fact that the entrepreneurs should analyze the risk criteria in the formulation phase, the author has developed the model for the risk management<sup>2</sup>, which is a supporting tool for the design of the project idea. The author has considered the elements important for the 2014-2020 perspective.

## **2. Assumptions and research questions**

In the article, the following research questions were given:

- 1) What can be the reasons that the risk appears in the formulation phase?
- 2) How to assess the risk most effectively in the formulation phase of the technological project?

The research was conducted between 2015 and 2017. In the research, the direct interviews and CATI interviews with entrepreneurs, who would like to apply for the European funds, were applied. Before conducting the research, the author contacted 150 enterprises (micro, small, medium, and big), among which 108 (72%) of them decided to take part in the research. The author presented to the entrepreneurs the groups of the criteria, which can occur in the formulation phase of the project (formal, content, financial, legal). Later on, each criterion contained detailed sub-criteria. The task of the entrepreneurs was to indicate these criteria, to which they must pay attention during the preparation of the project proposal.

## **3. Risk management – theoretical foundations**

In the literature, it is possible to find many approaches to the project management, among others, P2M (2009), PRINCE2 (2010), TenStep (2012), PMBOK (2013), Six Sigma (2014), which also include the aspects of the risk management. Moreover, the methodologies dedicated only to the risk management can be found (Table 1).

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<sup>2</sup> A model is a simplified presentation of a selected part of the reality in order to understand it better.

**Table 1.** Methodologies for the risk management

Methodology	Description
ISO 31000 Risk management – Principles and guidelines on implementation - International Organization for Standardization	ISO 31000 gives basic information on the risk management. The standard can be applied in the enterprises of different types (private and public), for group tasks as well as for individual tasks. It is not dedicated to any specific sector or service. It can be used in strategies, decisions, operations, projects, products, services.
A Risk Management Standard – IRM/ Alarm/AIRMIC 2002 – the Institute of Risk Management	The standard includes the following sections, which concern risk: definition, management, assessment, analysis, evaluation, decision-making process to minimize or eliminate risk, monitoring of undertaken steps.
COSO 2004 - Enterprise Risk Management - Integrated Framework - Committee of Sponsoring Organizations of the Treadway Commission	The standard aims at the identification and the selection of risk, which could influence most the decision process and it includes the following aspects: the linkage of the risk with the strategy, the proposition of the objectives and the mechanisms for the risk management, decision-making process.
RAMP (Risk Analysis and Management of Projects) - Institution of Civil Engineers and the Institute and Faculty of Actuaries	As far as it concerns the RAMP methodology, the risk analysis includes four stages: the initiation of the RAMP procedure (1), the risk identification (2), the risk management (3), the final management phase (4). The second and the third phases are especially important as they include the following activities: the identification and the assessment of risk and the use of the methods enabling minimizing or eliminating risk; the control of risk and the observation of any possible changes.
PRAM (Project Risk Analysis and Management) – the Association of Project Managers	The methodology enables the users to analyze and to manage the risk, which is linked to the project. The methodology, if applied correctly, increases the probability of the project success.
M_o_R (Management of Risk) – British Cabinet Office	The methodology is used at different levels of the organization – strategic, program, project, operational level. The aim of the methodology is to identify the risk management, policy and adequate strategies, plans for programs, projects and systematic identification, analysis, and management of risk.
Risk Management Methodology – European Union Agency for Network and Information Security	The risk management methodology can be used in the long-, medium- and short- term perspectives. It aims at the definition of the scope and the frames of the risk management, the risk assessment, minimizing or eliminating risk and making the staff aware as far as it concerns the probability of the appearance of risk and its results.

**Source:** Walaszczyk (2016, pp. 34–43).

In this article, the key element is the linkage of the risk with the formulation phase of the project. The formulation phase enables the applicants to analyze deeply the needs, which are the basis of the project launch, to analyze potential problems, to precise aims of the project, to estimate time

of the project execution and its budget, and to identify the results, which are planned to be achieved. The formulation phase includes several steps (5Ws + H rule) (Shiba & Walden, 2016; Hicks, 2004; Andler, 2016):

- *Why* – why is the project needed? What are the reasons for its execution?
- *What* – what activities will be undertaken and what results are planned to be achieved?
- *Who* – who will be the executor, the sub-contractor and the end users of the project?
- *When* – when will the project be executed?
- *What for* – what benefits will be received after the execution of the project?
- *How* – what are the assumptions of the project, how high is the level of the risk.?

The primary element of the formulation phase is the development of the project proposal in such a way that the proposal should be accepted by the organization financing the project.

The entrepreneurs are aware that the preparation of the project proposal is not simple and many criteria must be taken into account. Having conducted more than 100 interviews with entrepreneurs and people responsible for the elaboration of the project proposals in the areas of technologies on different barriers, which make the preparation of the project proposal difficult or impossible, the author listed the reasons, which can be met the most often:

- difficult language of the project documentation;
- lack of skills for interpreting legal acts;
- lack of skills for the execution of individual tasks;
- lack of experience in the preparation of the project proposal;
- too much information, which must be included in the project proposal;
- lack of skills for the organization of work during the preparation of the project proposal.

The barriers indicated above, increase the probability of risk during the project evaluation and the project execution. Moreover, there are presumably other kinds of risks, which should be considered. The need for the elimination or the minimisation of risk induced the author to the design of the model, which will be the tool supporting the formulation process of the technological project. The model includes elements, which must be considered during the formulation phase. In the model, the author included the criteria, which is typical for proposals in the 2014-2020 perspective as well as own propositions.

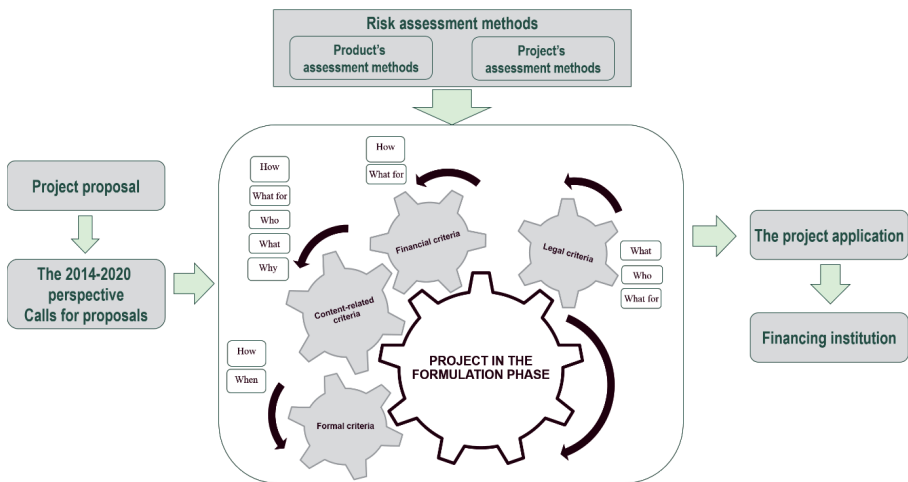
#### 4. The assumptions of the model for risk management in the formulation phase

The aim of the model is to be an effective tool supporting the preparation of the project proposal at the formulation stage. The author considered many criteria, which are relevant for the 2014-2020 strategy.

The assumptions of the model are the following:

- the model can be applied in the formulation phase of the project proposal;
- the model includes the following criteria: formal, content-related, financial and legal, which are included in the 2014-2020 perspective;
- qualitative and quantitative methods for the risk management are included in the model;
- the model should be mainly used by the entrepreneurs;
- the model can be applied by other institutions (e.g. research organizations) if needed;
- the model is open; therefore, it can be complemented with additional elements.

The overall structure of the model is presented in Figure 1.



**Figure 1.** Model for the risk management in the formulation phase

In the formulation phase, the entrepreneurs, who wish to submit the project proposal, should perform the *ex-ante* evaluation. Its aim is to minimize the probability of the proposal rejection by the financing institution.

The aim of the *ex-ante* evaluation is to assess, among others, the needs of the launch of the project; the potential problems; the project objectives; the time

of the project execution; the budget; the results planned to be achieved. The main assumption of the *ex-ante* evaluation is to assess the potential project in such a way in order to prove that financing is justified and the development of products will contribute to, among others, the increase of the competitiveness of the company on the market.

#### **4.1. Formal criteria**

The first step in the risk management in the formulation phase is to check formal criteria. The author indicated these, which appear most often in the calls for proposals offered by national organizations within the 2014-2020 perspective, and which should be significantly considered by the applicants.

They are the following:

- the submission of the project proposal in a relevant institution;
- the submission of the project proposal within an adequate activity;
- the submission of the project proposal in a relevant time, which is indicated in the call for proposals;
- the preparation of the project proposal according to the instructions and other requirements;
- the relevance of the budget with the rules of projects' financing. This catalogue of criteria is not closed. It includes the criteria, which appear in most calls for proposals, and which are proposed at the national level. The formal criteria concern the project as a whole, and therefore, they should be checked with the use of the document analysis method (rules and other documents, e.g. annexes). As far as it concerns the formal criteria, the entrepreneurs make the following mistakes:
  - the submission of the project proposal within irrelevant activity;
  - the omission of some requirements;
  - irrelevance of the budget with the requirements of the call for proposals.
  - The formal criteria are indispensable to be checked, as the lack of the verification can contribute to the immediate rejection of the project proposal.

#### **4.2. Content-related criteria**

The content-related criteria are linked to the product, which is planned to be developed in the project. Regardless of the type of the product, the author proposed to assess them with the use of the following methods: the method for the assessment of the implementation maturity level, the method for the assessment of the commercial potential, the method for the assessment of the innovativeness level. In Table 2 the author described the methods above.

**Table 2.** Descriptions of the methods relevant for the product assessment

Method	Description
Method for the assessment of the implementation maturity level	The method enables the users to assess the following categories of technical products: devices, materials, systems, and technologies. The method aims at the identification of the advancement phase of works on the product, and it indicates the implementation maturity level of the product. The assessment includes two stages: preliminary and detailed assessment, which contains a set of control questions relevant for these types of the products. The preliminary assessment is performed by the experts, and it aims at quick identification of the implementation maturity level and preliminary identification of one of 9 levels, which concern the progress of the product development. The detailed assessment contains 180-200 control questions, depending on the product type. The effectiveness of this method has been confirmed in undertaken innovative initiatives financed either from public or private funds.
Method for the assessment of the commercial potential	The method is a complex character, and it contains 32 detailed assessment criteria for the following types of products: devices, materials, systems, and technologies. The use of these criteria will enable the users to apply the method to selected stages of the product development and to compare achieved results from different periods of time.
Method for the assessment of the innovativeness level	The method is a systemised character, and it contains ten detailed assessment criteria for the innovativeness level. The use of these criteria will enable the users to apply the method at next stages of the product development and the comparison of the achieved data in different periods of time.

Source: Walaszczyk (2015, p. 177).

Not all proposed methods can be applied to all kinds of products. The type of the product and the adequate methods are presented in Table 3.

**Table 3.** The application of the assessment methods for the products depending on the production scale

Type of the product	Method for the assessment of the implementation maturity level	Method for the assessment of the commercial potential	Method for the assessment of the innovativeness level
Individual unique product	√	–	√
Individual repeatable product	√	√	√
Serial product	√	√	√
Mass product	√	√	(√)

Source: Walaszczyk (2015, pp. 185-186).

In the assessment of all types of technology, regardless of the fact that they are financed by public or private funds, the method for the assessment of the implementation maturity level is the key method. Its aim is to verify if the products achieve planned technological level.

Analyzing the possibilities of the commercial potential, in the case of the unique products, which are individual, the assessment of the commercial potential is not necessary as these products are usually designed for an individual client.

In the case of the individual repeatable products as well as serial and mass products, it is desirable to perform the assessment of the commercial potential in order to verify if the products could be favourable to potential clients. The evaluation of the commercial potential is necessary in this case due to the financing institutions demand that the product should be implemented on the market.

In the case of individual products design (unique and repeatable), serial and mass products, if their development is financed from public funds (national or the European Union funds), it is necessary to perform the assessment of the innovativeness level. It is also one of the criteria which must be fulfilled when applying for funds (product or process innovations).

As far as it concerns the products financed from own funds (an individual client or the development of the product for own needs of the research organization), the assessment of the innovativeness level depends on the preferences of the contractor.

### ***4.3. Financial criteria***

Other elements, which must be taken into account during the risk assessment, are the financial criteria, which seem to be crucial since in most cases finances are a kind of barrier. These criteria make the application for funds from public institutions impossible, or they hamper the launch of planned activities from the capital.

Therefore, in the case of the application for funds from public organizations, the applicant must analyze the following aspects: (1) own funds, (2) the catalogue of qualified costs, (3) the form of payment.

Own funding is understood as the difference between the total amount of qualified costs and the amount of co-financing. The significant aspect is the verification if the applicant can afford to put own funds in cash or non-cash form (e.g. buildings, staff, etc.).

The catalogue of qualified costs is the key element in the group of the financial criteria. In each call for proposal. it can be different therefore, the applicants must analyze each position carefully. It enables them to avoid the



situation in which, e.g. the entrepreneur would like to buy a machine, but the cost of the machine turns out to be non-qualified.

Funding is almost often given in the form of the advance payment or re-funding. It is obvious that the advance payment is much more beneficial as the entrepreneur is not obliged to dispose of his or her own funds, which must be used to pay to the sub-contractor. However, very often funds are given in the form of re-funding. In such case, the entrepreneur must pay for service first and afterward the financing institution gives this amount of money back to the entrepreneur based on the invoices delivered. The option of the re-funding is thus a big problem, mainly for micro and small enterprises, which are not able to dispose of such high amount and this is a significant barrier for them.

The risk assessment in the relation with financial criteria should be performed with the use of the financial analysis or cost-benefit analysis. Moreover, the analysis of the financial documentation can be used.

#### ***4.4. Legal criteria***

The next criteria are of a legal character. It is important to take into account the following problematic aspects: (1) the division of property rights; (2) the ways of the transfer of the property rights.

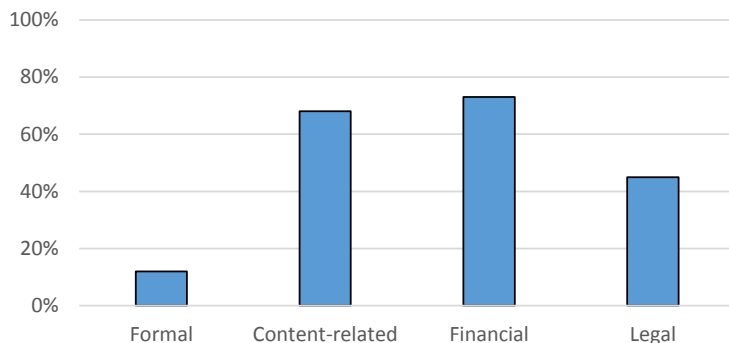
In many initiatives, the moment of signing a preliminary agreement with the entrepreneur, there is a need of the indication how the property rights will be divided. The movement of ownership rights can be the following: the agreement of the transfer of author property rights or the license.

As long as the transfer of the author property rights is obvious, the form of the transfer can be much more complicated. The form of the transfer should depend on the interested parties, however, for example, in the initiatives financed by the public organisations (the National Centre for Research and Development), the interested parties are forced to transfer the rights '*as the remuneration, which is relevant to the market price of these rights*'. This interpretation, which was developed by the Danish Agency of Science, Technology and Innovation (2016), was accepted in the NCBiR in the projects.

The formal, content-related, financial and legal criteria described above are the elements, which must be carefully analyzed at the *ex-ante* stage. Depending on the needs, there is the possibility to include some additional criteria to the assessment process.

## 5. Verification of the model for risk management in the formulation phase

The designed model has been applied by 80 entrepreneurs. Figure 2 presents the criteria, which have been considered most often. The justification was that the oversight of these criteria could result in the rejection of the project proposal.

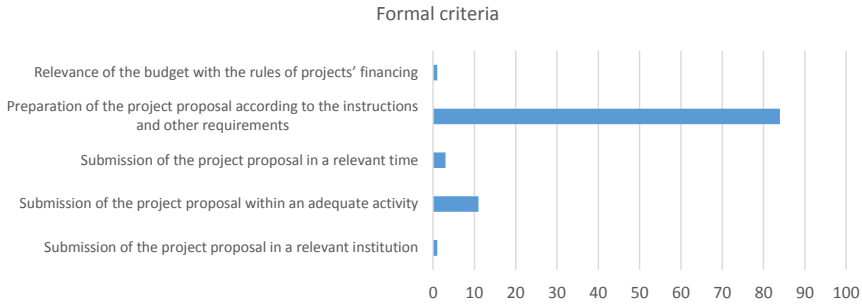


**Figure 2.** Criteria considered the most often by the entrepreneurs in the formulation phase of the technological project

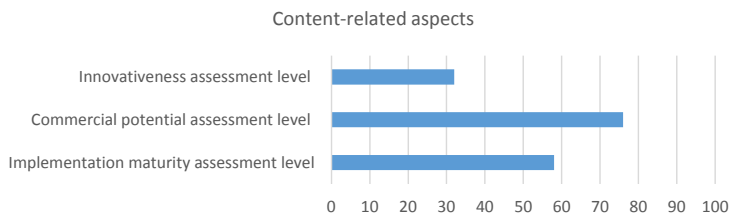
As it is shown in Figure 2, the entrepreneurs considered most often the financial criteria (73%). It comes from the fact that they were afraid of the incorrect understanding of financial rules, which would cause not to get financing or to get the received funds back to the financing institution. They paid the least attention to formal aspects as most of the entrepreneurs were familiar with formal rules, which concerned any individual call for proposal. Having analyzed all the criteria in detail, in Figures 3-6 the author presents the elements, which were analyzed regarding the criteria.

In the relation with formal criteria, the entrepreneurs paid attention to the preparation of the application according to the instructions (84%). It comes from the fact that they are afraid of omitting some important information included in the instructions and therefore the project proposal could be rejected.

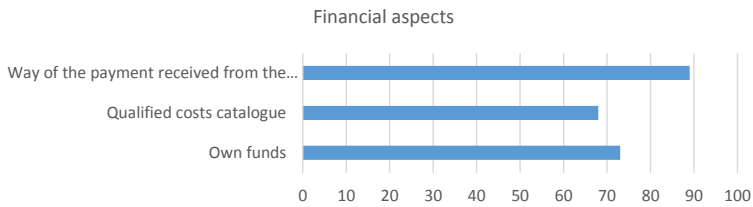
In the case of the content-related criteria, the entrepreneurs mainly paid attention to assess the commercial potential economic level (76%) of the products planned to be developed. A few entrepreneurs have not realized that the assessment of the market competitors and the economic demand must be included.



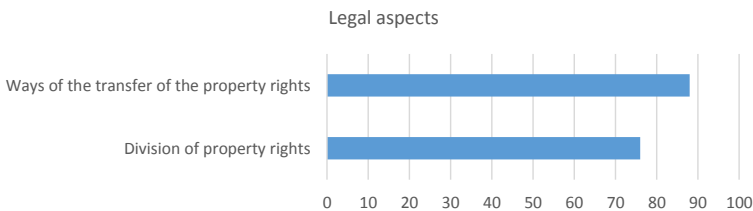
**Figure 3.** Formal criteria mostly considered by the entrepreneurs in the formulation phase of the technological project



**Figure 4.** Content-related criteria mostly considered by the entrepreneurs in the formulation phase of the technological project



**Figure 5.** Financial criteria mostly considered by the entrepreneurs in the formulation phase of the technological project



**Figure 6.** Legal criteria mostly considered by the entrepreneurs in the formulation phase of the technological project

As far as it concerns the innovativeness level, only 32% of the entrepreneurs paid attention to this aspect. It comes from the fact that they often wanted to get funds for a product, which was not innovative, but it helps to increase income in the enterprise.

Having analyzed the financial criteria, the biggest number of entrepreneurs (89%) stated that it is necessary to make a detailed analysis how the entrepreneurs get the payment. The funds may be paid in different forms. The advance payment and the re-funding are the most common forms of payments. They confirmed that the advance payment is more advantageous as they do not have to dispose any own funds in cash in order to pay to anybody, who is involved in the project.

The necessity for the verification of the catalogue of qualified costs and many own funds were at the similar level, relatively 68% and 73%, what means that these aspects are important for entrepreneurs as well.

The legal criteria concern the property rights, which are linked to the developed products. The entrepreneurs confirmed that the way of their division and the way of the transfer of the property rights are significant in the process of the project application because it is the entrepreneur, who usually wants to be the owner of the developed product.

## **6. Conclusions**

The proposed model for the risk management in the formulation phase of the technological project is aimed at helping the entrepreneurs to fulfil the basic criteria, which are important during the preparation of the project proposal. The author considered the requirements of the financing organizations included in the 2014-2020 perspective (among other the National Centre for Research and Development, the Polish Agency for Enterprise Development, the Regional Operational Programmes), which are very similar in many calls for proposals. The entrepreneurs do not understand many criteria, which must be included in the project applications, therefore they often give up with applying for funds or their proposals are rejected.

The proposed model is a tool, which indicates, step by step, which aspects must be taken into account in order to comply with the requirements of the organizations, which finance initiatives.

## Acknowledgments

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# THE IMPORTANCE OF ACCOUNTABILITY FOR INNOVATION DEVELOPMENT VIEWED THROUGH THE MEDIATING ROLE OF INTELLECTUAL CAPITAL.

**Joanna Wójcik-Bubała<sup>1</sup>, Martyna Jacenko<sup>2</sup> and Magdalena Wójcik-Jurkiewicz<sup>3</sup>**

## **Abstract**

*Although the concept of accountability itself is not new and in the literature, it appeared about 40 years ago, business has started to realize its importance only recently. Accountability can be understood differently in English or non-English languages. The examples of the most innovative companies demonstrate the culture with the characteristics of accountable organizations. Their innovation is in their culture and employees. Accountability as the important element of intellectual capital has the linkage to the innovation. Time will show if market and business are interested in the evaluation of accountability and its presentation in financial statements. The aim of the paper is to present the importance of accountability for innovation development as mediated by organizational culture and intellectual capital. It presents the theoretical concept of accountability as success factor of the innovation.*

**Keywords:** *accountability, innovativeness, measurement, business value.*

## **1. Introduction**

The latest empirical and conceptual studies identify the influence of organizational culture and intellectual capital on innovation development (e.g., Inkinen, 2015; Gonzalez-Loureiro & Dorrego, 2012). Accountability forms an integral element of both organizational culture and intellectual capital, which justifies the inference that accountability affects innovative activities as well. In this conceptual paper, we discuss the importance of accountability for innovation development and present this relationship viewed through the mediating role of intellectual capital.

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The results show (e.g., Subramaniam & Youndt, 2005; Veltri & Bronzetti, 2014) that as intellectual capital positively affects innovative performance, the accountability as the integral element of intellectual capital should also impact innovativeness in the organization.

The impact of the intellectual capital on innovation performance has already empirical evidence. The results identified the dependency between organizational culture and innovation, and between intellectual capital and innovation. As accountability is the integral element of both: organizational culture and intellectual capital (Inkinen, 2015; Hall, Fring & Buckley, 2015; Gonzalez-Loureiro & Dorrego, 2012; BCG, 2016; Martins & Martins, 2002; Hartnell, Yi Ou & Kinicki, 2011). It is reasonable to consider accountability as the significant factor of innovative organizations.

The aim of the paper is to present the importance of accountability for innovation development as mediated by organizational culture and intellectual capital. It presents the theoretical concept of accountability as success factor of the innovation.

The article is structured into five sections, including introduction and conclusions. The definitions and cases of the most innovative companies are followed by the concept of accountability as the integral element of organizational culture and intellectual capital and its theoretical impact on innovation. The impact of accountability on innovation is also considered the concept of business evaluation. The article has been based on selected literature review and published business information. As there is limited literature available on accountability in the business itself, the authors identified the potential for further research.

## **2. Understanding the accountability**

Raymond Williams, one of the most significant thinkers of the 20<sup>th</sup> century, the founder, and researcher of cultural studies initiated the list of keywords used in culture and society during the industrialization period to understand cultural changes in the society. His analysis published as the book “Culture and Society” (1958) became enormously influential.

Over time, till the 80s of 20<sup>th</sup> century, the list has been extended with other keywords mostly used (Williams, 1983). Williams did not include “accountability” on the list. It does not mean it did not appear in the society.

Melvin Dubnick has focused for nearly 30 years on accountability and governance in the public, non-profit and private sectors. Dubnick (2014) analyzed and provided evidence of the rising frequency of the term “accountability” in sample literature written in English, in the 2<sup>nd</sup> half of the 20<sup>th</sup> century.



Non-English languages translate “accountability” as “responsibility,” yet it does not reflect the original meaning. Over the last two decades, this topic became known as the improvement factor for organizations and leadership development. While optimizing the effectiveness of the business processes, accountability has emerged as value, core competency and one of the organizational success factors. The significant growth in the appearance of the term “accountability” in the literature has been observed for the last 40 years.

Although there are few definitions, accountability can be understood as answerability, and it underlines a necessity and expectation to explain one’s actions whatever they are accountable (Lindsay, 2017). Merriam-Webster dictionary defines accountability as: “the quality or state of being accountable; especially: an obligation or willingness to accept responsibility or to account for one’s actions.”

The Oz Principle (Connors, Hickman, Smith, 2010) presents a new understanding of accountability, defined as a personal choice to rise above one’s circumstances and demonstrate the ownership necessary for achieving desired results: to See It, Solve It, and Do It (Connors, et al., 2010). With time, accountability has become important in every organization. AMA Enterprise in its survey on accountability conducted in 2013 among 562 senior-level business professionals concluded that one-quarter of the leaders believe that 10-20% of employees avoid responsibility.

Workplace Accountability Study, performed by The Partners In Leadership in 2014 among 40,000 participants, leads to the conclusion that only a quarter (27%) solve problems and are fully engaged in solving problems they face at work and do not see that as someone else’s job. 93% of responses enable to align their work or take accountability for desired results. 84% stated the way leaders behave like the single most important factor accountability influence in their organizations. So, the role of the management is undoubtful.

According to the U.S. Office of Personnel Management reference material, accountability has a positive impact on work performance, employee’s involvement, commitment and morale of staff, creativity, innovation, and satisfaction with the work. It is observed that the more employees are involved in expectation and goals setting, and more confident they are in achieving those expectations and the performance than the results are better.

The Oz Principle (Connors, et al., 2010) underlines personal involvement as the baseline for achieving the goals as well, describing accountability as the broader concept in which people feel accountable for the results being beyond their control. Looking at the entire organization, such people create the ultimate results and are the critical drivers in the teams.

### 3. Accountability as a part of innovative organizational culture

After studying innovation among 759 companies based in 17 major markets, Tellis, Prabhu and Chandy (2009) found that corporate culture was a much more important driver of radical innovation than labor, capital, government, or national culture.

In Shearer's (2015) opinion, accountability and innovation are two words that sound like opposites. Accountability has a sort of weightiness. It conveys responsibility but also rote compliance and guilt. Innovation has an overtone of experimentation, thus encouraging risks. Innovation can only happen in the risk-accepting environment. The accountability gives safe background for experimentation and change because people feel supported and trusted. People need to feel responsible for the organization.

OECD, in the Oslo Manual (OECD/Eurostat, 2005), defines innovation as "the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations."

Brands (2010) describes 1000 components of the innovation, with accountability as one of them. The others are an inspiration, risks acceptance, new product development process, ownership, value creation, training and coaching, idea management, observation, and measurement, rewarding.

Real-life examples of most innovative companies like Apple, Google, or Tesla proof the source of innovation.

Apple, number one of the most innovative companies according to The Boston Consulting Group ranking "The Most Innovative Companies in 2016" and according to Forbes's annual study 2017 top valuable brand in the world for the seventh straight year (worth USD170 billion). The most successful products at Apple (iPhone, iPad) were started with only a few people with no formal structure or hierarchy and little corporate oversight. Experts have associated the innovation at Apple with its corporate culture. At Apple, the work culture was driven by a passion for new products with no end to challenges and opportunities. The corporate culture at Apple was exemplified by its intense work ethics. Though the work environment was relaxed and casual, there was a very strong commitment to deadlines. Analysts summarized the work culture at Apple as "fun, yet demanding." In 2016 Apple spent USD10.39 billion on R&D (Apple).

Google ranks second among the most valuable brands at USD101.8 billion. Google encourages employees to dedicate 20% of their time to passion projects. That resulted in the second place for the third straight year in the BCG ranking.

This ranking states that the culture of strong innovators resulted in new projects and ideas for growth that had been generated from internal sources (78%). That may lead to the conclusion that shaping innovative culture within the organization is a continuous process, as well as shaping accountable culture. In 2016 Google spent USD 13.95 billion on R&D across its many properties (Statista).

Tesla's was worth about USD 61.1 billion in June 2017, and it was more by USD 0.5 billion than BMW at that time. The market clearly expressed confidence in upcoming products. The phenomenon of the third most innovative company worldwide is in its organizational culture. At Tesla people matter more than patents. Tesla empowers its employees to search for ideal solutions, encourages innovating to support continuous improvement of the business and to quickly respond to market trends, acting as the owners, and encourages thinking on business development. In 2016, Tesla spent USD 834.4 million on R&D accepting financial losses of USD 773 million (Statista).

Another European example is Rightmove. The UK's largest property portal, number 1 on the Forbes 2017 ranking of the Most Innovative Growth Companies. Rightmove.co.uk was launched in 2000 by the top four corporate estate agencies at the time as the website offering the properties for sale. In 2001 Rightmove employed 12 people. Six years later the company listed on London Stock Exchange at GBP 3.35 a share. The share price in August 2017 reached GBP 4,035. In 2009, they introduced first mobile application, soon becoming Britain's favorite property website. In 2016 revenues exceeded GBP 220 million and operating profit reached GBP 220 million.

The management emphasizes the importance of the culture in the sustained innovation. (Gregersen & Dyer, 2017). The success of Rightmove is based on the unique organizational culture and behavior. The managers were involved in the Culture Engagement Programme, taught coaching, developing and performance management. The company supports the approach "dare to do something." The management encourages people to take actions, try, not to be afraid of mistakes, learn from them, and use feedback to iterate quickly toward something better. A behavior of iterative innovation supported by Rightmove is to openly share the ideas with people around at an early stage and get feedback from own employees, as well as networked partners in the industrial environment (Gancarczyk & Gancarczyk, 2016; Gancarczyk & Gancarczyk, 2017). That allows the others to contribute and build on it, while still in a formative stage.

The above mentioned innovative organizations have something common in their corporate culture. They seem to have the key characteristics of the most innovative organizations as presented in Figure 1.

Innovative organization				
Open structure for collaboration	Culture of experimentation	Different process for radical projects	Focus on intangible „people issues“	Approval of innovation project does not depend on projection of future return
Governance, Management, Organization				

**Figure 1.** Key characteristic of innovative organization

Management makes sure that the innovation projects are strategically aligned with the business objectives. It accepts the risk of failure and future financial losses. The incentives and awards are linked to an individual’s contribution to the radical innovation, focusing particularly on soft, intangible “people issues,” such as mind-sets, behaviors, and interactions. They continuously shape the culture.

Governance provides different processes for radical projects, allowing for more iterations and experimentation. According to 2014 BCG survey of The Most Innovative companies, 80% of the projects start with no projection of future returns.

Organizational structure allows for easy collaboration with internal and external partners. The culture promotes learning, experimenting, and testing. The organization operates as if the future success of the company depended on it alone. Employees treat the business as their own. The structure and processes allow adaptability and quick implementation of the novel solutions.

The culture aspect of the organization is visible in the accountable organizations. Figure 2 presents its key characteristics.

Accountable organization					
Focus on problem solving	Feedback friendly	Avoid victimization	Rewarding initiatives and effort	Focused on lessons learned, based on mistakes	Open and honest communication
Management involvement and support					

**Figure 2.** Key characteristic of accountable organization

*Focus on problem solving.* Problem focused approach may have a negative impact on employees' motivation while they image all the negative consequences they might have. Focusing on problem solving leads to the cooperation within the teams as it avoids looking for the person responsible for the problem and avoids victimization.

*Feedback friendly.* Employees giving and receiving feedback have the opportunity to analyze their actions in terms of what has been done well and what could be done better. Feedback also gives the base for the communication, sharing information and knowledge.

*Avoid victimization.* Problem solving culture tends to take the initiative and allow experimentation through the creation of a safe environment to learn from the mistakes.

*Rewarding initiatives and effort.* Leaders shape the culture by supporting the initiatives through appreciation of the efforts even when the results are not as desired.

*Focused on lessons learned, based on mistakes.* The most innovative companies create a learning environment to challenge assumptions, create openness to new ideas, experimenting, accepting the risk of failure, considering broad sources for idea generation and having a process to incubate innovative concepts.

*Open and honest communication.* Accountability has the background in the organization with open and honest communication on every level of the structure, giving the safe environment to make mistakes and solid background for lessons learning and continuous improvement.

The ideas and knowledge are openly exchanged. That creates the safe environment for experimentation and open collaboration.

Wójcik-Bubała (2015) pointed out that accountability drives individuals to change and successfully implement all innovative solutions. Only individuals who feel the ownership of the problem will make an effort to solve it.

The culture of accountability in the teams is important and caused by the interdependencies of the tasks within the team. High performing teams ensure effective execution of the tasks and implement the ideas on a timely basis (Brands, 2014). The accountable team supports achieving long term targets of the organization. Thus, accountability is one of the success factors in organizational growth.

Accountable employees in the innovative organization ask the key question “What else can I do to solve the problem and bring a unique solution?”. The culture of the most innovative companies seems to prove the character of accountable and innovative organizations.

#### **4. Accountability within intellectual capital**

Over last years the researchers have defined intellectual capital (IC) and analyzed its impact on innovation. In the concept of IC, the soft skills and tangible assets are compatible and are the source of value added by the organization and particularly by the employees involved in the process of creating value (Ujwary-Gil, 2010; 2017). IC constitutes innovation capacity. IC can be categorized into six categories:

- 1) Intellectual assets: documents, databases, charts, drawings, drafts
  - 2) Knowledge assets
  - 3) Intellectual property: patents, trademarks, intellectual property rights, trade secrets
  - 4) Intangible assets: brand, goodwill, fair value
  - 5) Intangible resources: human, information, “invisible”
  - 6) Unable to be measured: experience, image, brand, customer relationships, ability
- Accountability as defined by The Oz Principle (Connors, et al., 2010) fits in this category of IC.

The accounting standards focused on the IC methods to evaluate some of its categories (Beattie & Smith, 2013).

However one of the IC categories “Unable to be measured” remains extremely difficult or even immeasurable: experience, image, customer relationships, ability, and accountability.

The literature also indicates intangible resources (Osinski, Selig, Matos & Roman, 2017) and “invisible assets” (Hiroyuki & Roehl, 1991; Lank, 1997) within the organizations: managerial skills, technologies, culture, customers trust.

Depending on the definition of the IC, resources are also equated with IC. Personal competencies of the employees (such as experience, skills, education) are classified as intangible resources as well.

Research proves the evidence of a significant relationship between IC and firm's innovation performance (Inkinen, 2015). Once competencies and skills of the employees are considered as IC, accountability should also be considered as an integral item of IC, under the category of "intangible resources." It seems reasonable, once IC has the impact on innovation, accountability as part of IC should also be correlated to the innovation.

The reality of doing business is adjusted by the market requirements, economic and societal trends. The traditional financial statements as many regulations tend not to follow the business needs. Profit, as the tangible result of the business activity, is presented and considered in the organization's strategic plans. Managements measure organizational performance with numbers presented in the financial statements. Wójcik-Jurkiewicz (2011) points out those traditional financial statements do not reflect IC in terms of future investments and do not give the proper information on IC as the value of the organization. The changes in the perception of the financial information were suggested by the financial analysts and accountants' organizations. As the response to the 21st Century business needs, The International Integrated Reporting Committee has been created. The developed approach- an Integrated Reporting "brings together material information about an organization's strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates" (IIRC, 2011). Integrated Reporting defines six capitals: financial, manufactured, human, intellectual, natural, and social. It points out their interdependence and contribution of the organization to creating and sustaining value in the short, medium, and long term. Integrated reporting shows how IC and other forms of capital contribute to value creation over time. It also enhances transparency and accountability which are essential in building trust to the organization. The Integrated Reporting on sustainability performance is supported by principles and assurance standards AA1000 Assurance Standard 2008. Within organizations, it is used as a means of driving overall performance through innovation and learning.

The information on IC thus accountability may have a significant impact on the future strategic decisions taken by the management, investors, or stakeholders. The principles and standards ensure comparability.

The changes in the value creation are significant. Transformation of the financial statements is unavoidable.

Does it make sense to value accountability and include it as part of the financial statement? It can be argued, but does it mean that accountability has no impact on profit? Studies performed among leaders indicate that the higher

level of accountability, the better efficiency of the processes and performance of the entire organization. The performance has a clear impact on the financial results (profit) of the organization, expressed in money terms. Therefore, organizations may want to measure and value accountability as part of the intellectual capital, even though it seems to be challenging. Valuation models of the IC already exist (Fragouli, 2010). In case of accountability evaluation, at the moment, benchmarking seems to be the most logical method. There are very limited studies available publicly on the accountability among organizations, measuring its level in the innovative organizations. There should be more empirical evidence and studies about the measurement and valuation to propose the clear evaluation solution.

## **5. Conclusions**

It can be observed that the innovative and accountable organizations have many similarities. The most innovative organizations are supported by their organizational culture and intellectual capital. Accountability as an important ingredient of both organizational culture and intellectual capital is a valuable contribution to the sustainable growth of the organization. Business has already realized the importance of the accountability for the organization. The managements started to perceive accountability as an important factor in the company's performance. The recent standards in integrated reporting follow the business requirements and intellectual, natural, and social capitals are in scope of the integrated reporting. That points out their interdependence and contribution of the organization for creating and sustaining value in the short, medium, and long term. Integrated reporting shows how intellectual capital and other forms of capital contribute to value creation over time and their prospects.

Once the impact of accountability on innovation will be reported and valued, or even measured, accountability will play the more significant role than today.

The paper answers the question of the importance of accountability within the innovative organizations, through the theoretical linkage between accountability as an integral element of intellectual capital and innovation. The concept of the influence of accountability on innovation should be further operationalized for empirical research to test its validity.



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**III.**  
**BUSINESS AND NON-PROFIT**  
**ORGANIZATIONS IN A MARKET**  
**ECONOMY**



# EVALUATION OF FUTURE ENTREPRENEUR'S SOCIAL COMPETENCIES – COMPARISON OF COMPETENCE LEVELS OF STUDENTS AT POZNAŃ UNIVERSITY OF TECHNOLOGY AND LODZ UNIVERSITY OF TECHNOLOGY

**Agata Branowska<sup>1</sup>**

## **Abstract**

*This paper presents the Entrepreneur's Competencies; special emphasis is put on social competencies. In the article methods and tools to evaluate competencies of entrepreneurs are analyzed. The goal of the work is to identify levels of social competencies among students at Poznań University of Technology and Lodz University of Technology. In the empirical part of the article, levels of social competencies of two groups of future entrepreneurs will be compared.*

**Keywords:** *entrepreneur competencies, social competencies, methods to evaluate competencies.*

## **1. Introduction**

Entrepreneurs' Social Competencies affect their relations with the internal and external environment. They allow effective use of specialized knowledge and professional skills, as well as transmitting this knowledge and sharing experiences with other employees and entrepreneurs. Social Competencies play a very important role. To be an effective entrepreneur one has to know how to negotiate, how to sell own products and services, how to prepare and conduct business meetings, how to motivate employees to perform tasks effectively, how to solve conflicts in a creative way and how to communicate clearly and precisely. To be an effective entrepreneur, an individual should know how to communicate "in order to gain trust, maintain credibility, and generate enthusiasm" (Davis, 2007).

This article characterized Entrepreneurs' Social Competencies. In the empirical part of the paper, the results of researches concerning self-assessment

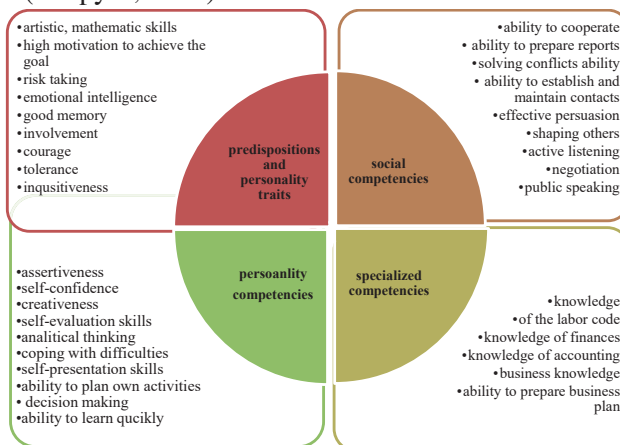
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of competency level of future entrepreneurs are presented. The study was conducted among students of the Faculty of Organization and Management at Lodz University of Technology and the Faculty of Engineering Management at Poznan University of Technology. The Social Competencies profiles of examined students are compared. For the survey research, a questionnaire was being used, which was designed for the purposes of the project “Model of validation of competencies for employees of MSME of Wielkopolska’s municipal sector” realized by National Chamber of Commerce (Spychała & Matejun, 2015). The research was conducted among students at Lodz University of Technology in November and December 2014 and then continued to March 2015, and at Poznan University of Technology between 2015 and January 2017.

## 2. Entrepreneur competencies

An entrepreneur is a person who possesses Entrepreneurial Competencies, such as creativity, innovativeness, knowledge and business experience, ability to solve problems and team management skills (Johannisson, 1993). Dubois and Rothwell (2008) describe Entrepreneurial Competencies as knowledge and skills that lead to founding, survival, and enterprise development. An entrepreneur recognizes and utilizes potential market opportunities existing in the environment. He can acquire, identify and effectively use resources (Johannisson, 1993). He becomes the creator of the internal and external changes in the enterprise, which have an impact on the potential growth of the organization (Korpysa, 2011).



**Figure 1.** Competencies, predispositions and personality traits of entrepreneur

Source: own study based on Bird (1995); Dickson & Hargie (2004); Mitchelmore & Rowley (2010); Man, Lau & Snape (2008); Spychała (2010).



Figure 1 shows the main competencies, predispositions and personality traits of the entrepreneur. Competencies are divided into three categories: specialized (technical), social (behavioral) and personality. Specialized competencies refer to business knowledge and skills in business planning, business conduct, finances, accounting and labor law. It is also the knowledge about modern technologies used in own company or modern machines used in the production. Another group of competencies are the social one, which are presented and characterized in the next subsection. Apart from technical and social competencies, the last group is personality competencies that are closely related to personality traits and can be shaped by social training (Piróg, 2015). These include assertiveness, self-confidence, creative thinking, self-evaluation skills and ability to make an auto presentation, ability to cope with difficult situations and decision-making, analytical thinking, and ability to learn quickly. It is a group of competencies that determine how an entrepreneur is able to: use chances and opportunities in the environment (analytical thinking, a pace of decision making) and find an alternative solution to a specific problem (creativity, innovativeness), thanks to which an entrepreneur may succeed.

Apart from competencies, an entrepreneur possesses predispositions and personality traits. Predispositions are innate, relatively permanent mechanisms that determine the tendency of a person to behave in a certain way (e.g., a speed of learning, mathematical ability, artistic ability, good memory, emotional intelligence). Knowing entrepreneur personality traits, it is possible to understand his behavior fully and reliably while performing tasks in the organization.

### **3. Entrepreneur Social Competencies**

The Polish Qualification Framework defines social competence as “the ability to shape one’s development and autonomously and responsibly participate in professional and social life, with taking into account the ethical context of one’s conduct.” (see [www.nauka.gov.pl/standardy-ksztalcenia/-/](http://www.nauka.gov.pl/standardy-ksztalcenia/)). According to Spitzberg and Cupach (2002), social competencies are relational skills through which the entrepreneur initiates, negotiates, maintains, changes, and ends interpersonal relationships. Social competencies are not only skills but also knowledge and internal motivation of each entrepreneur. Innate qualities and social experiences are important factors influencing the level of competencies (Matczak, 2001). Social competencies refer to the ability to get along with other people. They express in the ability to establish and maintain contacts, empathy, ability to cooperate in pursuit of achieving common goals, and resolving conflicts.

Figure 1 shows the entrepreneurial social competencies. They can be divided into three groups (Bird, 1995; Dickson & Hargie, 2004; Mitchelmore & Rowley, 2010; Spychała, 2012):

a) communications competencies, related to the ability to communicate inside the organization and with external environment:

- knowledge of verbal and nonverbal communication;
- knowledge of oral and written communication;
- knowledge of foreign languages;
- ability to send the right information and to give proper feedback;
- ability to prepare presentations;
- ability to speak in public;
- ability to prepare reports;
- ability to prepare documents based on data;
- ability to create rules, procedures, and instructions in a company.

b) persuasion competencies – related with the ability to influence people in the internal or external environment:

- ability to shape other's behaviors, ability to motivate others in order to achieve goals;
- ability to effectively convince customers, investors to own services, products, and business;
- active listening skills, ability to use a paraphrase, to focus on speaker's speech, knowledge of nonverbal communication helpful in active listening;
- ability to resolve conflicts in a team or another organization;
- ability to negotiate, to seek agreement between the entrepreneur and other entities or organizations.

c) ability of an entrepreneur to cooperate with others within a team - sharing knowledge, constructive criticism, building trust and learning from each other.

The level of entrepreneur's social competencies determines the quality of interpersonal functioning in the organization and its environment. Some studies indicate that a high level of interpersonal skills is an important predictor of being a successful leader (Connelly & Mumford, 2000).

In the next chapter, the author of the article will answer those research questions:

*How can one identify the competency level of an entrepreneur?*

*Which method is the most objective one?*

*Are there tools that examine the level of social, specialist, and personal competencies in a detailed way?*

#### 4. Methods and tools to evaluate competencies

Dubois and Rothwell (2008) states that competencies can be identified:

- by indicating behaviors or measurable results achieved with using these competencies and while taking into account the nature of the tasks performed;
- by behavioral indicators - a description of the action or set of actions that can be expected when a person effectively uses his or her competencies to perform tasks.

Table 1 summarizes methods and tools to evaluate entrepreneur's competencies.

**Table 1.** Methods and tools to evaluate entrepreneur competencies

<b>Methods and tools to evaluate competencies (examples)</b>	<b>Characteristic of methods and tools to evaluate entrepreneur competencies</b>
Questionnaire	Method to evaluate the competence level carried out by using standardized questionnaires prepared specially for the purpose of the study.
Observation in the workplace	To determine the competency level an entrepreneur's behavior in natural working conditions is being observed.
Simulation	It is a special form of observation method. Entrepreneurs are assessed on the basis of their behavior when they perform tasks, which mimic real – life professional scenarios.
Structured interview focused on job analysis (telephone, individual, group interviews)	Conversations with employees and managers in order to obtain information about types of competencies they believe (based on their experiences) an entrepreneur should possess when performing work in the particular organization (generally) and a given position.
Behavioral interview	Technique of interviewing based on discovering how the interviewee acted in specific employment-related situations connected with particular competence. The entrepreneur is asked to describe past behavior in order to determine how he/she will behave in the future (past performance predicts future performance). Entrepreneur is asked questions which help to explore a particular job-related competency better.
Critical Incident Technique	Technique which involves identifying and describing specific events (or incidents) where the entrepreneur performed tasks well or behaved in a way, which needs improvement. It's a technique based on the description of the event and does not rely on the assignment of ratings or rankings, although it is occasionally coupled with a rating type system.

<b>Methods and tools to evaluate competencies (examples)</b>	<b>Characteristic of methods and tools to evaluate entrepreneur competencies</b>
Competency test	Allows estimating the level of occupational competencies, and more specifically, knowledge about how to behave in a given task situation. Questionnaires basing on self-descriptions of behaviors, which are indicators of competence Practical knowledge tests: Situational Assessments (SJT), hidden knowledge test (Tacit Knowledge Tests)
Psychological tests	An instrument designed to measure basic personality traits which may have an impact on career.
Verbal description	Description of the entrepreneur strengths and weaknesses made by his superiors, subordinates, co-workers, and customers.
Job descriptions	Descriptions of tasks and responsibilities at a particular job.
Company documents analysis (mission, vision, values, strategy)	A method which includes an analysis of future and planned directions for the organization's development. In the process of analysis, the requirements laid down by the content of these documents are translated into the language of competencies and desirable behaviors.
Self-assessment and assessment of competencies in the workplace (180 and 360-degree appraisals)	Methods which enable to receive performance feedback (information about entrepreneur's knowledge and skills) from different groups of stakeholders, including managers, subordinates, peers, or clients. Opinions of anyone who meets an entrepreneur can provide valuable insights and information or feedback regarding the "on-the-job" performance of the entrepreneur.
Assessment & Development Center	Methods used in organizations to measure the knowledge, skills and abilities of entrepreneurs, their competencies levels, strengths, and weaknesses, as well as development potential. Assessment and Development Center are multidimensional processes, during which trained assessors by using various techniques (e.g., simulations, interviews, tests) evaluate competencies needed to perform a task on the particular job.
Computer games	A tool, which allows diagnosing managerial competencies.

**Source:** own work based on Sidor-Rządowska (2001); Bieniok (2006); Rostkowski (2004); Szczęsna & Rostkowski (2004); Bratton & Gold (2007); Jurek (2008); Smółka (2008); Filipowicz (2014).

Surveys, observation methods, interviews, and critical incident technique are methods used to analyze the professional competencies of entrepreneurs. Those methods require systematic gathering and analyzing the data (both primary and secondary data sources are being used). They allow identifying patterns of effective employee behavior and should be therefore the basis for defining the competencies that will become part of the evaluation (Branowska, Siemieniak & Sychała, 2011). There is no "the best one" method to evaluate professional, entrepreneur's competencies

commonly used in the theory and practice. Human resources decisions cannot be based only on evaluation and diagnosis coming from a single source. Specialists mostly agree on one topic - more than one method of analysis should be used. The use of several research methods is most appropriate and necessary because of:

- measurement of different professional competencies may require the use of different tools; various methods and tools provide new, valuable information and allow to gain the most comprehensive picture of entrepreneur's competencies profile;
- measurement methods and tools differ not only in what they measure but also in how accurately they measure the competencies;
- methods and tools differ in the way they measure a particular competence; sometimes different methods of measuring the same competency give divergent results (Smółka, 2008).

Presented methods and tools are subject to many methodological limitations. It is, therefore, necessary to evaluate a competency with the regulation of more than one method and based on more than one research.

## **5. Comparison of future entrepreneur's social competencies – students of managerial studies at Poznan University of Technology and Lodz University of Technology**

Research on student's managerial competencies level was conducted at the Faculty of Organization and Management at Lodz University of Technology in November and December 2014. The research was continued till March 2015. The study was also conducted at Faculty of Engineering Management at Poznan University of Technology between 2015 till January 2017. The study involved a total of 594 LUT students and 269 PUT students from selected managerial studies. Students who participated in the research were both full-time and part-time, first and second-degree students (Table 2). The level of student competency was assessed with the usage of standardized questionnaires specially prepared for the study by Spychała (2012).

**Table 2.** Characteristic of students

<b>Students</b>	<b>Lodz University of Technology</b>	<b>Poznan University of Technology</b>
Total	594	269
First degree	378	229
Second degree	236	40
Full-time	526	224
Part-time	68	45
Female	378	156
Male	216	110

Table 3 shows Social competencies with indicators, which describe these competencies. Each of the examined competencies was expressed in the form of 2 to 6 indicators. Presented social abilities partly overlap with social competencies shown in Figure 1. In addition, Table 2 shows the results of social competencies evaluation of PUT and LUT students.

**Table 3.** Social Competencies' Indicators – self-evaluation and competency gap of students at Faculty of Organization and Management (Lodz University of Technology) and Faculty of Engineering Management (Poznan University of Technology)

Social competencies	Competence indicators	Self-evaluation of LUT students	Self-evaluation of PUT students
Team management ability	knowledge of team building	3,85	4,3
	skills in team building	3,95	4,3
	knowledge about motivating a team	4,35	4,7
	skills in motivating a team	4,19	4,6
	knowledge about team control	3,55	3,7
Conflict solving ability	ability to control the team	3,45	3,6
	knowledge about the causes, types and consequences of conflicts	3,99	4,5
	knowledge of conflict management methods (e.g., compromise, creative problem solving, mediation)	3,86	4,7
	ability to deal with conflict situations	3,94	4,5
Negotiation competencies	ability to take rational actions in difficult conditions	4,56	4
	knowledge of negotiation techniques	3,57	5,2
	ability to use negotiation techniques	3,49	4,8
	knowledge of methods of argumentation, persuasion, and motivation	4,46	4,6
Communications within organization	ability to influence others by using appropriate arguments and types of persuasion	4,45	4,7
	ability to clearly and precisely transmit the information	4,2	4,6
	ability to active listening	4,37	4,7
	knowledge and skills of nonverbal communication	4,69	4,8
	ability to public speaking	4,00	4,1

Social competencies	Competence indicators	Self-evaluation of LUT students	Self-evaluation of PUT students
Communications with external environment	ability to communicate clearly and precisely between the company and the environment	3,87	4,2
	ability to establish contacts	4,92	4,9
	ability to build relationship with customers	4,92	4,9

Source: own study based on Spychała (2010; 2012).

Indicators have been described in detail and evaluated by students on scale 1-8 according to the principles outlined in Table 4.

**Table 4.** Characteristics of particular levels of Competencies of Managers

Levels	Characteristics
1	Given competency not absorbed. Lack of behaviors indicating its mastering and use in activities.
2	Acquisition of competency in a basic level. It is used irregularly. Required supervision of more experienced people and giving their support.
3	Competency sufficiently absorbed, it can be used by oneself in practice, but there are situations that require supervision of experienced persons.
4	Competency satisfactorily absorbed, it can be used by oneself in practice, in the performance of professional tasks.
5	Competency absorbed in a good level, which allows better fulfilling tasks in the given field and passing experience to others.
6	Competency absorbed in a very good level, which allows very good fulfilling tasks in the given field.
7	Competency absorbed in a great extent. The ability to creative usage and development of knowledge, skills, and desired attitudes in the given range of activities.
8	Expert level, the ability to creatively share their knowledge and skills with other managers and employees.

Source: Branowska, Siemieniak & Spychała (2012).

Table 3 shows that students at Lodz University of Technology evaluated their social competencies in the range <3.45; 4.92>. These range correspondents with sufficient and good level. The respondents at Poznan University of Technology assessed their social competencies at the same level, the range <3.6; 5.2>, indicating a slightly higher score.

Future entrepreneurs at Lodz University of Technology evaluated the ability to establish contacts with the environment and building relationships with customers the highest from all the competencies. This result indicates that students are properly prepared for communication process with the external environment.

The respondents at Poznan University of Technology gained similar results.

Students evaluated knowledge of negotiation techniques the highest (up to 1.63 levels higher than LUT students). Such a significant difference may result from the fact, that PUT students participated in lectures and classes in negotiations, while not all LUT students had such an opportunity. An entrepreneur negotiates with colleagues in a team, with other entrepreneurs, but also with customers and investors.

Negotiation competency is crucial and needed for an entrepreneur to succeed; therefore, the good level should not be satisfactory for the respondents: professional negotiator is having knowledge and skills of negotiation at level 7, which is an excellent one.

Which social competency was rated by the respondents the lowest?

Students at Lodz University of Technology and Poznan University of Technology assessed the level of knowledge and ability to control team members the lowest. Respondents are full – time students, who don't have much working experience and the possibility to work in teams. Another factor influencing low rating of this competency is related to the fact that students are being taught about team control during second-degree studies, so they didn't have it in their curriculum yet.

Competency related with motivating employees was evaluated much higher. The reason for that is the education program: students had lectures and classes about motivation systems.

The competency: internal communication was evaluated by future entrepreneurs at LUT and PUT at a satisfactory level (4,2 and 4,6). This result is too low for an entrepreneur, who needs to transmit information effectively, listen to others actively or present data to team members. None of the students evaluated communication competencies at very good (6) or excellent (7) level.

Identification of social competence levels and knowledge of competencies gaps allow to develop and improve educational programs.

## **6. Conclusions**

The publication aimed to identify Levels of Social Competencies of selected students at Poznan University of Technology and Lodz University of Technology. The results of the researches are not satisfactory. The main reasons for competence gaps are the lack of experience in the area of setting up own companies, building teams or negotiating business transactions.

The article presents various methods of evaluating the entrepreneur's social competencies. Only one method – questionnaire was used during researches. The authors of the paper believe that this is not an objective method



of evaluating the level of student's competencies. Additional methods basing not only on self-evaluation but also on the assessment of experts or team members should be carried out. When identifying various social competencies, such as communication, negotiation, problem-solving, the simulation (a form of an observational method) should be carried out. In this method, students are assessed on the basis of their behavior in situations similar to the real live work situations.

Projects should be carried out in teams where students have the ability to share knowledge and create new solutions.

Each student who wants to become an entrepreneur should try to get to know the actual workplace. Traineeships, internships, and practices offered by entrepreneurs provide the opportunity to test own specialized and social competencies. Technical skills in economics, business law or modern technology should be supported by a broad and well-grounded knowledge of negotiation, team management and the ability to communicate with clients and employees.

Student's self-evaluation of social competencies at level 3 and 4 (sufficient and good) doesn't prove their readiness to play the role of entrepreneur. This result indicates those competencies should be improved and developed.

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### **Biographical note**

**Agata Branowska** is an Assistant Professor at Poznan University of Technology. She is the lecturer at the Faculty of Engineering Management, where she teaches organizational behavior, communication, ethics in management, and sociology. She received her doctorate in management. The title of her Ph.D. was “Method of staffing process in agile enterprises.” Her recent publications include “Worker’s occupational competencies in a modern enterprise” and “Modeling of employee’s competencies in agile enterprises.” She specializes in the concept of human resource management, especially the staffing process. Her current research includes the evaluation and development of manager’s social competencies, as well as employees’ profiles creation.



# PARTICIPATION OF COMMUNES IN NETWORK COOPERATION

**Marcin Flieger<sup>1</sup>**

## **Abstract**

*The main purpose of the article is to determine to what degree commune's cooperation with other communes and non-governmental organizations is characterized by typical features of network cooperation. At the beginning, the author depicted the process of achieving stages of network cooperation maturity. Next, possible forms of net cooperation between communes have been identified. Then the author focused on cooperation between communes and non-governmental organizations, identifying the process of achieving network maturity. Finally, in order to show a practical aspect of the analysis, the examples of development of network relations have been presented.*

**Keywords:** *network cooperation, communes, non-governmental organizations, network cooperation maturity.*

## **1. Introduction**

Nowadays the dominating paradigm of providing services by the local administration is a system basing on hierarchical, functional structure. As a result, so-called service function becomes dominated by the executive function. One of the most interesting concepts which may change this negative relation seems to be a model of network cooperation. It changes the traditional way of realizing administrative tasks by public institutions, implementing the idea of a partnership of cooperating organizations. Network cooperation constitutes one of the modern ways of creating relations between parties (Zdziarski, 2016). The net consists of knots (organizations) and relations between them, thanks to which the added value might be created. The net becomes a very specific kind of cooperation based on horizontal dependencies (Łobos, 2000; Mitreġa, 2010; Newman, Barnes, Sullivan & Knops, 2004). Relations do not base on subordination; thus the hierarchical structure is not created (Flieger, 2016). At the same time, each partner joins the net freely, in the process of searching for mutual benefits (Zimniewicz & Piekarczyk, 2010). Built relations allows exchange (flow) of knowledge, skills, and material resources (Downes, 2005).

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What is extremely important, local administration offices (communes) can become a part of such nets, initiating cooperation with various kinds of organizations. Definitely, one of the crucial partners are non-governmental organizations operating in a region. Communes may also get involved in a net cooperation with other communes.

Thus, the main objective of the article is to determine to what degree commune's cooperation with other communes and non-governmental organizations is characterized by typical features of network cooperation. At the beginning, the author depicted the process of achieving stages of network cooperation maturity. Next, possible forms of net cooperation between communes have been identified. Then the author focused on cooperation between communes and non-governmental organizations, identifying the process of achieving network maturity. Finally, in order to show a practical aspect of the analysis, the examples of the development of network relations have been presented.

The author used following research methods: analysis of documents and legal acts regarding the functioning of local government institutions and non-governmental organizations, the study of literature concerning the characteristics of network relations (network organizations), expert interviews with representatives of both communes and non-governmental organizations. Moreover, the author has carried out a case study in order to scrutinize the process of achieving maturity in network relations empirically.

## **2. Stages of network relations development process in the context of cooperation between communes**

Cooperation in organizations within network centers on the awareness of a common goal, free choice regarding joining the net and partnership relations, are built thanks to mutual trust. Thus, achieving the optimal state of cooperation (network maturity) requires some time (Baker, 1993). In the first phase potential partners initiate informal relations, representatives of local communities and public administration institutions attempt to get to know one another, find out if there is a platform of cooperation which centers on common objectives. Contacts between organizations are limited mostly to exchange information, and there are informal. At the same time, they are signaling the will to create a network organization. If partners are interested in the initiative, a basic informal network is created.

Another natural stage of development of a net organization begins when the partners initiate first ventures realized together. Measures are not formal, yet the cooperation aims at getting to know one another more profoundly, expressing good will, creating mutual trust and understanding.

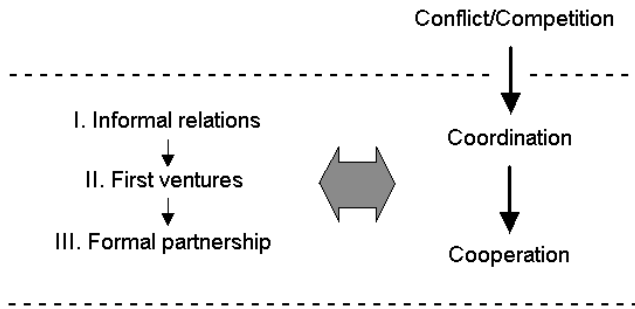
Therefore, undertakings do not generate high risk, often they are connected with joint planning some measures, in order to achieve a synergy effect and coherence. Partners are searching for a common ground for future cooperation which would be beneficial for all participants in the network.

If the abovementioned sort of cooperation works (institutions will trust one another and realized ventures will bring benefits to all partners), the network relations will evolve into a more advanced form – a formal partnership. The existence of a net organization becomes confirmed by a formal agreement (contract), in which responsibilities of all parties are laid out. Such a formalization often becomes a beginning of a strategic partnership, which focuses on setting and achieving common long-term objectives (Baker, 1993).

Putting into scrutiny each stage of the process to achieve network relations maturity, it is vital to stress that the initial phase is characterized by the following: a defensive approach, separation, and often conflicts between partners. These ought to be perceived as a situation in which a positive result for one party (institution) at the same time constitutes a negative outcome for the other. At the local administration level, such a conflict might concern, e.g., organization sporting or cultural events. However, in the relations between communes' conflict, situations are considerably more rare than competitive behavior.

The crucial moment which is in favor of the development of network connections is the time in which communes start to realize that competing with other organizations (communes) might be extremely time and energy consuming and often not reasonable. Often the more beneficial solution may be joining forces and resources, in order to achieve a goal together using the synergy effect. Possibilities of such a cooperation seem vast. They stem from both soft measures (planning and organizing cultural and sporting events, building an offer for potential investors in a region, organizing conferences, fairs, activating the unemployed), and so-called hard ones (building local infrastructure – roads, tourists routes, sewage treatment plants).

Most often such a cooperation begins from coordinating measures (loose, often informal relations which do not generate considerable risk). They allow partners to get to know one another better and understand mutual benefits. Next, the relationship evolves into more close cooperation. The ultimate stadium of partnership means integration and orientation at development (Furmankiewicz, 2002). The analyzed relations and stages of achieving network maturity have been presented in Figure 1.



**Figure 1.** Stages of maturity in network cooperation

Thus, partnership constitutes the base of advanced network cooperation. In such relations, each institution plays a very precise role. In this context, it ought to be stressed that there are two major models of leadership in the network. The first one is a visionary leadership. Such a kind is more likely to happen regarding rather loose, mostly informal network relations. That is why it is characteristic for the first stage of the network development. The second model is a tactic one, also called operational. They are typical for the networks which are homogenous and in which the relations are rather tight and formal. This kind of leadership is more natural than in case of the most advanced phase of a network development, which is a formal partnership.

With regard to the stages of the network organization development process, it is important to emphasize that the two major forms of cooperation are: dual and multilateral. In case of the first type of relationship there are two basic options:

- communes which are located directly one next to another – mostly cooperation between such communes is based on natural, common economic and social matters, such as infrastructure or environmental virtues. They are the factors which very often determine so-called hard relations, which ought to be understood as financial cooperation. Such a kind of relations can be seen mostly in case of the cooperation of communes which are a part of one bigger city. It is a very special sort of relations between communes which are situated one next to another, the bonds are very tight and the functional connections strong. Financial cooperation concerns realization of infrastructural investments and communal policies. It is also very natural for the communes to get involved in various social and cultural initiatives;
- communes which are located in different parts of a region or a country – in this case, direct spatial (territorial) connections do not exist. Cooperating communes may be situated in the remote part of



a country, far away from one another. Dual relations are rather not financial, and communes focus on the development of cooperation regarding sport and cultural events, and exchange of the youth. Moreover, local authorities often initiate transfer of knowledge and innovation concerning communal assets management and possibilities of financing investments. Such measures are especially interesting in the context of network relations because in this way one of the crucial potential benefits of such a cooperation becomes exploited – which means joining partners mostly because of the access to unique knowledge and possibilities of sharing it. It is also worth mentioning that cooperation of communes situated far away from one another is more often based on a formal agreement.

There is a distinction between territorial and functional connections. The first ones mean cooperation of a few communes one next to another and most often they have forms of local or regional associations, and agreements. Such cooperation is mostly task-oriented (for instance connected with communal assets management) with a domination of a financial aspect.

A very special sort of a multilateral, territorial network is constituted by communes which operate within the confines of the territory of one city and the cooperation of a few cities which are located directly next to each other (they have common borders). In this case, it is vital to stress that to some extent the relations between such partners are forced and that the conflict of objectives may disrupted the harmonious, concise cooperation within the network. This problem is visible especially when the goals of the whole city and objectives of particular communes (districts) are juxtaposed.

Multilateral network cooperation between communes which do not have any direct territorial connections is quite natural and often seen. In this case, the functional aspects are the major factor which motivates institutions to initiate relations (Furmankiewicz, 2002). They are mostly the similarities between communes, such as environmental assets, economic, or social problems. As a result, institutions start to realize that they have common objectives. Multilateral network cooperation allows sharing knowledge, experience, and initiating cultural events, etc. Moreover, network organizations possess more considerable potential in terms of influencing state authorities (lobbying) in order to be more efficient concerning the realization of common strategies and solving local and regional problems.

Within the confines of the analysis of dual and multilateral network cooperation, there appear two optional pairs (variables) which show typical differences between the forms. Firstly, network relations may base on financial or non-financial cooperation. The first one is more natural concerning communes which are located one next to another, in both dual and multilateral configuration. The non-financial kind of relations dominates in case of

communes which are far from one another. This distinction leads to another variable – local and trans-territorial networks (Camagni, 1995). While in local relations partners more often explore social, economic and cultural aspects (which appear very naturally as a consequence of territorial closeness), trans-territorial bonds base on functional benefits, and they are mostly formal.

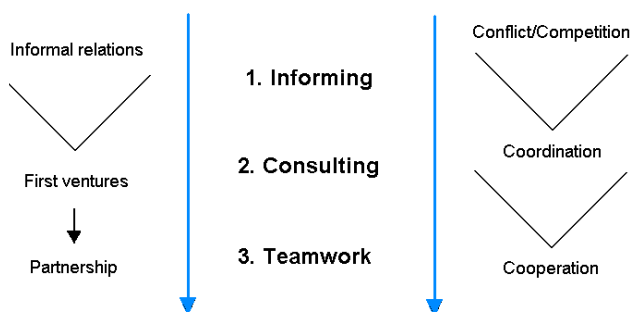
### 3. Stages of network cooperation maturity between communes and non-governmental organizations

In order to present possibilities and conditions of developing network cooperation between communes and non-governmental organizations (NGOs), the author has divided the scrutiny into non-financial and financial areas. As a result, it is possible to show a very practical aspect of the cooperation, a real potential of being engaged in the development of the network.

#### 3.1. Non-financial cooperation

The non-financial cooperation may have three basic forms: informing one another about planned activities; consulting bills which concern NGOs; creating teams – members come from both public administration and NGOs (Art. 5 of Ustawa o działalności pożytku publicznego i o wolontariacie, 24 April 2003, Dz. U. 2003, No 96, pos. 873).

Naturally, these forms show the direction of development of cooperation between two parties, which may become a fundament of building network relations (achieving stages of maturity). This process has been presented in Figure 2.



**Figure 2.** Process of achieving network maturity in non-financial cooperation

Thus, the cooperation starts with informing. Regulations do not state precisely in what way this process ought to be realized, so there is a real

potential for creating various channels and principles, depending on local needs and conditions. Although such relations are mostly informal, exchange of information allows limiting potential conflicts or competition. Organizations get to know one another; they have a platform to exchange opinion, understand another party's objectives.

Another stage of creating network cooperation is achieved, the moment organizations initiate consultations. They are not only allowing access to the details of realized projects but also taking into consideration other party's opinion and, as a result, implementing changes.<sup>2</sup> Informal relations become limited, and organizations take up first formal initiatives (often within the confines of cooperation programs). At the same time partners create fundamentals for coordinating realized tasks and/or projects.

The most advanced level of cooperation between communes and NGOs is realized by creating teams, whose members come from both kinds of organizations. Main objectives of such teams may be either advising (giving opinion) or initiating activities.

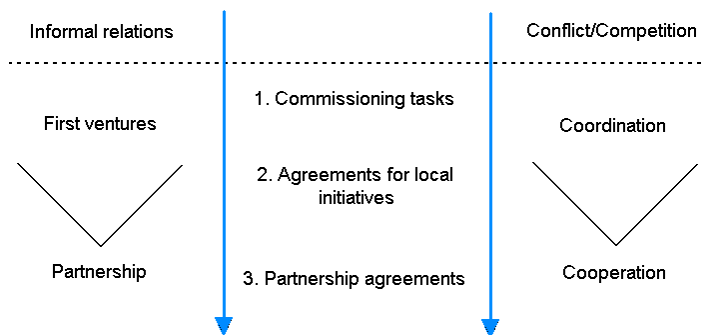
It is worth mentioning that operating of some teams is obligatory (Art. 11 - 15 of Ustawa o działalności pożytku publicznego i o wolontariacie, 24 April 2003, Dz. U. 2003, No 96, pos. 873). Cooperation in teams exemplifies the most advanced level of network maturity. Here, the idea of partnership is most visible. Representatives of local public administration and non-governmental organizations set objectives, tasks, way of achieving them, and responsibility of all parties. What seems especially important, cooperation in teams allows transfer of knowledge.

### ***3.2. Financial cooperation***

Firstly, it ought to be underlined that financial cooperation must have a formal character. Therefore, a classic first stage of creating network relations – informal contacts – in this case, constitutes a former phase, which naturally has a non-financial character. Moreover, initiating financial cooperation is possible on condition that all potential conflicts or competing behavior have been eliminated. The moment the financial relations appear, the organizations are already at the stage of coordinating actions. These aspects have been presented in Figure 3.

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<sup>2</sup> At this point it ought to be stated that consultations with NGOs are obligatory in case the matters concern statutory activity of non-governmental organizations. Consultations regarding so-called 'cooperation programs' seem to be especially important.



**Figure 3.** Process of achieving network maturity in financial cooperation

The author has pinpointed three basic forms of financial cooperation which constitute an equivalent of achieving another stage of network maturity. Mostly, the cooperation begins with commissioning NGOs (by local public administration) to realize public tasks. This form puts into practice basic principles of network relations to a very limited degree. It is difficult to say about partnership relations, dialog and effective system of communication. However, it may be the first step in the development of a network; it allows getting to know one another, understanding objectives of the other party, and build trust with the partner.

Contracts to realize a so-called local initiative constitutes a more advanced form of cooperation. Inhabitants of some region have a right to apply to a local public administration for a realization of some initiative (investment). They can do this by a non-governmental organization. What is especially important, an NGO also declares participation in the project. In this way relations between communes and NGOs become more complex, there is a need to plan, organize and control the project together. As a consequence, a platform of information exchange, consulting and learning from one another appears. It is a vital step in the process of development of partnership relations.

However, utter realization of the partnership cooperation idea is possible when all parties base their relations on so-called partnership agreements. They are signed between a non-governmental organization and a commune (local administration) mostly in order to realize some particular project or program. A good example of such cooperation seems to be public-private partnerships.

## **4. Development of network relations – case studies**

As an addition to the above scrutiny, the author is going to present case studies showing how in practice organizations operating in a region develop relations, juxtaposing them with the abovementioned stages and forms of network cooperation.

### ***4.1. Marine Cities and Communes Association***

Marine Cities and Communes Association is an example of multilateral, functional cooperation. Thus, unlike in the case of territorial relations, partners (communes) are not located one next to another. The association was found in 1991, and it consists of almost thirty marine cities and communes. Its main objective focuses on joining forces in order to increase the economic, social and cultural level of its members (Status of Stowarzyszenie Związek Miast i Gmin Morskich, resolution of General Meeting of Delegates, no 13/183/2015 on October 16, 2015). Statutory activity concentrates mainly on taking up promotional measures in fields of tourism and environmental protection. As an association of local institutions, it represents local and regional authorities at the level of central administration. By cooperation with parliamentary commissions and state resorts it supports and initiates measures which help to solve problems of marine communes.

In this case, the network relations base on the community of functional objectives, since local marine authorities (communes) face similar problems, challenges, they identify the same chances for development. At the same time, there is a domination of non-financial cooperation; the association uses the synergy effect to build a stronger position in negotiations with representatives of the central administration. Thus, it is more a question of creating a coalition for lobbying for beneficial solutions rather than realizing investments. Projects which are realized by the association focus on so-called soft measures, such as transfer of knowledge and best practice in the field of sports management or informational and educational initiatives ([http://www.zmigm.org.pl/projekty\\_zrealizowane/](http://www.zmigm.org.pl/projekty_zrealizowane/), June 25, 2016).

In the context of creating network relations, it is especially interesting to analyze the association's activity regarding relations with other associations. In the process of building marine Poland, Marine Cities and Communes Association signed an agreement for long-term cooperation with Marine and River League, By-Odra-river Cities and Communes Association, By-Vistula-river Cities Association. It is a very interesting example of exceeding the network, in this case, the knot is not a single institution (commune), but the whole association.

## **4.2. Nyskie Partnership 2020**

Nyskie Partnership 2020 seems to be a very good example of mature network cooperation, which shows possibilities of realizing complex strategic projects within the confines of the network of cooperating communes. In order to join forces to realize various projects for the development of Nysa region, at the end of 2012 the representatives of three districts (nyski, głubczycki and prudnicki district) met. As a result, they signed the agreement for Nyskie Partnership 2020 (in March 2013). The partnership consisted of fourteen communes which were a part of the three above mentioned districts. Nysa commune had become a coordinator (leader). Only a month later they applied to the Minister for Regional Development to take part in the competition ‘Development of towns by strengthening competencies of local administration institutions, social dialog and cooperation with representatives of the community.’ The project ‘Nyskie Partnership 2020’ was highly ranked and received financing.

In the main objective of the project it was clearly stated that the partnership is supposed to be strategic (by creating mechanisms of a long-term cooperation) and it ought to serve the purpose of detecting and solving problems which affect more than only one commune (which meant operating not only at the local level).

The fields of cooperation are very vast, and there are four strategies formed (<http://www.partnerstwo-nyskie2020.pl/index.php/strategie>, July 02, 2016).

In order to emphasize the partnership character of the cooperation, members of the association try to realize only initiatives (projects) which similar concern all communes in a way. Moreover, they have a rule which says that all benefits and costs of projects are divided equally. The principle also works in case of deciding about the division of responsibilities and engagement in the process of realizing a project. Therefore, the decision has been made that all projects will be realized together by all partners (<http://www.partnerstwo-nyskie2020.pl/index.php/o-projekcie>, July 02, 2016). Thus, it is seen very clearly that the partners in the association are very much aware of the character of network cooperation, they stress equality of knots, fair division of both benefits and costs of cooperation. These principles have been confirmed in formal documents.

## **4.3. ‘Unia Nadwarciańska’ Association**

There are five communes which initiated cooperation within the confines of ‘Unia Nadwarciańska’ Association: Powidz, Strzałkowo, Słupca, Łądek and Zagórów. Additionally, among the members, there are representatives

of economic and social sectors, including inhabitants of the communes<sup>3</sup>. The union is an example of a multilateral territorial network because communes are situated one next to another (they are a part of Słupski district).

The main objectives of the association are: increase in the level of life by exploitation of social and economic resources basing on local legacy, development of local entrepreneurship (including level of innovation and increase in employment rate), creation and development of local identity, development of competencies, knowledge, and activity of local community (Status of Stowarzyszenie 'Unia Nadwarciańska', appendix no 1 to resolution no 5/2016 of General Meeting of Members on 25 April 2016). Hence, the cooperation is mostly task-oriented and financial, because partners take up initiatives regarding absorption of funds from European programs.

The process of initiating and evaluating of the association reflects the stages of achieving network maturity. The moment the communes became aware that there is a possibility to gain financial support from EU was the factor which sparked off the first phase of network cooperation.

The communes understood that it was the time of a great chance for local development. However, within the confines of the programs, there are numerous initiatives which can be realized, only if partners join forces. As a consequence, the process of identifying possible fields of cooperation between communes had been initiated. It meant searching for measures which would bring benefits for all participants. In this way, the community of interests and objectives appeared, and built on the territorial community. Representatives of communes organized meetings, at which common fields of cooperation had been identified. All these actions constituted the first phase of the process – characterized by informal relations, aiming mostly at getting to know one another.

The beginning of the second stage of network relations development took place in the year 2004. An agreement regarding taking up joint actions for creating, promoting and developing a new tourist product in the town of Łąd was signed. As a result, communes submitted an application within the Leader Plus program, which was verified and classified for financing. The area of cooperation is very typical for this phase of network relations development. Measures in the field of development and promotion of a tourist product are relatively safe, they do not cause high risk, at the same time they allow getting to know one another better, understanding rules of cooperation and mutual benefits.

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3 ([http://www.unianadwarcianska.pl/pl/images/stories/file/cz%C5%82onkowie/Lista%20cz%C5%82onk%C3%B3w%20-%2017\\_05\\_2016%20r\\_.pdf](http://www.unianadwarcianska.pl/pl/images/stories/file/cz%C5%82onkowie/Lista%20cz%C5%82onk%C3%B3w%20-%2017_05_2016%20r_.pdf), July 06, 2016).

This first success was an impulse for the further development of the cooperation between partners in the association. In this way, the third phase of the process of achieving network maturity began. The beginning of the year 2006 was the crucial moment in the process of building a partnership. Then the cooperation was formalized and institutionalized. The representatives of local authorities, entrepreneurs and NGOs decided to found a so-called Local Action Group. It became a foundation, and this legal status allowed all participants to have an equal position. However, at the beginning of 2008, the members of the partnership decided to change the legal form – most institutions and people who had been partners in ‘Unia Nadwarciańska’ Foundation declared that they wished to become members of ‘Unia Nadwarciańska’ Association.<sup>3</sup> Such a sort of cooperation allows realization of long-term objectives (tasks) because relations are based on a strategic partnership.

## 5. Conclusions

The analysis allows concluding that commune’s cooperation with other communes and non-governmental organizations is characterized by typical features of network cooperation to a high degree. Regarding the cooperation between communes, it is naturally characterized by partnership relations. They have similar objectives, which constitutes a crucial field for common projects. At the same time, the cooperation may concern various areas – economic, social, and cultural. Being involved in one or a few forms results from both development strategy and a character of the commune. Nevertheless, network cooperation between communes seems very natural and beneficial for all parties. Concerning the cooperation with NGOs, there exist various forms of possible cooperation, starting from simple informing and commissioning task to mature forms such as formal partnership agreements. Developing relations by getting to another form constitutes a very natural process of achieving another stage of network cooperation. Therefore, it might be concluded that the features of network cooperation are visible to a high degree and the potential to create such relations is considerable. Presented case studies showed that organizations develop various forms of cooperation, there is no one scheme. What is crucial, in practice numerous relations between partners operating in a region, in fact, possess clear features of network organizations. The similarity is very strong.

The network cooperation concept constitutes an extremely important and interesting idea for an increase in efficiency of services provided by local administration institutions (Jones, Hesterly & Borgatti, 1997). However, in the

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<sup>3</sup> The main reason for the change of a legal status was the Act for supporting development of rural areas, which was passed on 7 March 2007.



author's opinion more research in this field ought to be carried out, especially in the context of process orientation (Bitkowska, 2009) – to determine place and role of each partner in the process of providing services and realizing tasks. It would allow exploiting the potential of network cooperation better, as it constitutes a very important element of a modern model of providing public services (Head, 2008; O'Leary, Slyke & Kim, 2010; Hooghe & Marks, 2001; Lynn, 2006).

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### Biographical note

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# SURVEYS ON PREFERENCES OF RETAIL CUSTOMERS IN SELECTION OF COMMERCIAL BANKS

**Gabriela Gurgul<sup>1</sup>**

## **Abstract**

*The situation on the market of financial services and the economical environment of the country cause changes of current competition strategies used by commercial banks. Banks sharpen the policy of the access to services and eliminate free services, while, in the public opinion, these are essential factors for selection of a bank by retail customers. The aim of this article is to present factors having an influence on the selection of bank by retail customers, which, in turn, have a great influence on the selection of competition methods used by commercial banks.*

*The analysis of results obtained thanks to used research methods reveal that currently, banks introduce changes in areas which were the most essential for clients as far as the selection of a bank is concerned. People having an experience in finances and banking especially focus in the process of the customer service on image, advertising, and opinions about a bank. On the other hand, ordinary clients exclude from their opinions the essence of advertisements, the general image of a bank and several factors influencing the quality character of products. For a typical customer, an important role is played mainly by a location, bank's availability, safety, confidentiality and costs of services. The above may indicate that current changes will have a negative influence on the competitiveness of banks and, in turn, can have a temporary character until "the fight" over clients needs to be started again.*

**Keywords:** *retail customer, competition, bank, opinion, competitive advantage.*

## **1. Introduction**

Changes in financial markets, unstable political and economical situations influence particular sectors of the economy, especially on the market of banking services. Whirls on markets cause changes of modern methods of a competition

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aimed at obtaining a dominating competitive position, generating profits, and maintaining the assumed activity aim, i.e., achieving or keeping the market share at a specific level, what makes banks significantly change strategies, focusing more on customers and their needs. The situation on the market in the form of low-interest rates and bank tax resulted in the necessity of increasing margins on offered services or eliminating free services, which played an essential role in acquiring and keeping customers. On the other hand, banks can not keep low prices in fear of consequences of announced legal acts which are to transfer a part of the responsibility for the Swiss frank crisis to crediting bodies and can have an influence on a lack of stability in the scope of banks' profitability. This is a serious threat relating to the customers' trust in financial institutions. Pyramid schemes, bankrupting SKOKs, and usurious practices of not controlled quasi-bank institutions have negative effects on the functioning of the whole banking sector, especially on constantly increasing requirements of customers, having an influence on redefining the scope and way of functioning of banks in this market. Acquiring and retention of new clients is becoming a more challenging and difficult aim. Thus, it is often when banks, to meet market requirements, merge through various mergers and takeovers in order to become stronger market players as far as the capital, number of customers, technological base, and limitations of costs related to functioning of bank branches or advertising campaigns are concerned. All these processes of changes taking place in external and internal environments are aimed at searching by banks more modern methods of competition in order to build the competitive advantage in the sector of banking services. While capital investments are inherent elements in the scope of banks competing, they are not most essential in the opinion of customers. Most often, clients evaluate the activity of banks in the field of non-price competition. These elements, most often, do not require significant financial expenditures but well-thought policies related not only to formulating promotions and the character of offered products but also with an adjusting to needs of customers in the area of satisfying customer service. A proper selection is made from factors which are decisive in the selection of a bank by particular persons. Due to changes in legal aspects in the banking sector in the years 2016-2017, a diametrical change took the place of the policy of banks aimed at liquidating free or cheap services as well as sharpening the credit policy and the access to particular debt products. The author formulates the thesis that such activities will not be beneficial in the long term due to banks' competitiveness. In accordance to the conducted studies, elements of "non-price fight" are essential for customers and are decisive in the process of selecting banks by retail clients. The aim of this article is to present selected factors which influence the shape and formula of competition strategies, which were picked in wider surveys among retail customers.

## **2. The essence and importance of the concept of competition in the sector of banking services**

Competition in the modern economy is one of the basic concepts related to its functioning. It is a key subject of the interest of the theory and practice of economical sciences. It has an influence on the quality of offered products and services, the rationalization of the activity of enterprises, and the implementation of innovations, at the same time being the basic economical mechanism as well as an objective phenomenon.

Competition is a theoretical concept, commonly present in the market economy, not having a reference in the space, as it is at the same time a state and a process referring to the area of the activity of market institutions (Gorynia, 2002). Competition can be perceived in two meanings. First, as a synonym of competition related to supply. Second, as entities competing with a particular company in a specific market, i.e., the sum of all competitors (Staszewski, 2004).

Competition is an ability of a company to achieve benefits from economic activity. “It is a process in which participants and market entities striving to realize own aims, which want to be competitive, present offers which are beneficial for customers when compared to other entities” (Grzywacz, 2003). Competition is a universal phenomenon in the market economy, the essence of which consists in competing over benefits from economic activity (Kachniewska, 2009). From the perspective of enterprises, the competition consists in a struggle between companies over achieving a relative advantage in resources, enabling achieving a market advantage, and, as a result, a better financial position (Hunt, 1995).

Competition in the banking sector significantly differs from the traditional model of competition, characteristic for enterprises, due to the necessity of having a similar pricing policy and a lack of competing in this field. Here, the competition is mainly revealed in the form of non-price rivalry. Banks use competition instrument such as increasing standards of the customer service, offer differentiation, modern technologies, various benefits related to cooperation with a bank (starter packs).

A mild character of the competition of the banking sector is a result of its role played in the national economy due to the fact of perceiving banks as institutions of public trust. Thus, a harsh competition in this sector could lead to a complete destabilization of the financial system in a particular country.

In the field of banking services, it is hard to obtain a long-term competitive advantage due to a lack of patent protection. In the course of several days (weeks), a new offer is copied by other banks, which join “the group of institutions offering the same product, as a result of which, the service becomes

common, not impressing customers in the same way as initially. For example, Polish BOŚ Bank introduced deposits with interests paid in advance, in which customers could collect interests in advance or ING Bank which launched a mobile application for planning and analyzing expenditures.

To sum up, we can state that despite the fact competition in the banking sector is based on basic mechanisms of the competition of enterprises, it is a specific phenomenon due to its non-price character and a limited power of rivalry. Thus, competition in the banking sector in the traditional meaning may include elements of a bank's economic policy, legal mechanisms, a system of generating deposits, regulations providing a stability of bank functioning, and technologies available to customers. As well as those of an intangible character such as image, reputation and the quality of service and products offered, aimed at achieving market advantage through acquiring new customers and their capital, as well as retention of existing clients.

### **3. Analysis of factors having an influence on selection of a particular bank by retail customers**

In order to obtain a competitive advantage, a bank needs to conduct a profound analysis of factors which retail customer consider during selecting a bank or deciding to continue cooperation with the current bank. A precise analysis allows a bank to have a competitive advantage thanks to adjusting an offer to needs of customers, as well as meeting their requirements.

Surveys conducted by the author were aimed at presenting factors influencing decisions of customers concerning a selection of a bank which he or she would like to cooperate. The study worked with 1068 properly completed surveys. Used methods enabled reaching 6801 respondents, using tools of ICT communication, as well as direct contact in the paper form in the North-West region of Poland, i.e., three voivodeships: Lubuskie, Wielkopolskie, and Zachodniopomorskie. The selection of those voivodeships and the sample was made in accordance with the methodology of studies by the Polish Central Statistical Office. The main focus was on evaluating and selecting most essential elements of banks' activity in the scope of acquiring new customers. Studies were aimed at obtaining an answer to the question why customers stay at one bank and what determines their decisions to change preferences and to choose another bank. In order to determine essential elements and to obtain professional opinions shaping significant relations between banks and customers, the author realized a survey among banking experts, using the CAWI method, the aim of which was to present those elements from the perspective of an employee, a banking expert. The selection of those

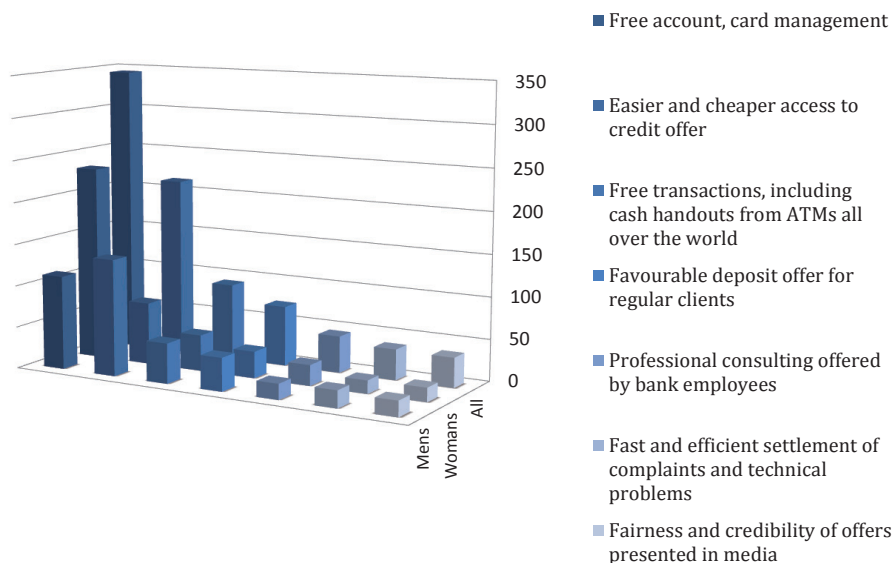
voivodeships and the sample was made following the methodology of studies by the Polish Central Statistical Office.

Customers of banks are rather not eager to change the bank and factors which are decisive in this field are quite diversified (Figure 1).



**Figure 1.** Factors arousing the greatest fear of deciding to change the bank

Customers indicated particular traits and features of products which are crucial for a decision to keep a further cooperation with the bank. Nearly one third (32%) of respondents (41% of people using banking services), as an element encouraging to continue a further cooperation with a current bank, indicated a free account management and payment cards, 20% of respondents (25%) pointed to an easier and cheaper access to a credit offer. Free transactions, including cash backs for ATMs all over the world, was a factor indicated by 8.5% of respondents (11% of people using banking services), while nearly 7% respondents (8.6%) focused on a beneficial deposit offer for regular clients. Elements such as professional advisory of bank employees, fast and efficient settlement of technical and complaint issues, and honesty and reliability of a bank offer presented in media was reported by about 4% of respondents. Thus, we can state that a decisive factor is a cost. As long as the cost is not present, most of the customers do not see any reasons to change the bank. It is especially characteristic of societies which use a wide range of banking service to a lower degree (Figure 2).

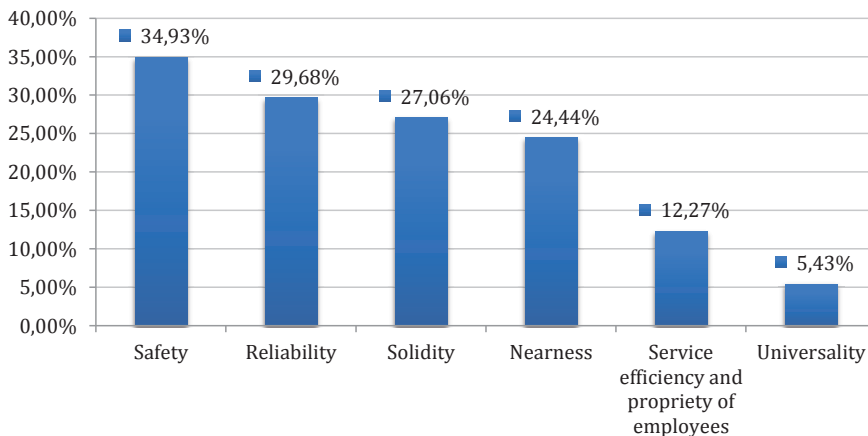


**Figure 2.** Factors which are decisive for continuation of cooperation with current bank

The analysis of preferences of respondents as far as a longer cooperation with the current bank is concerned, women more often than men indicated free of charge management of the account or payment cards. This element was chosen by 53% of women and 28% of men. An easier and cheaper access to credit and loan offers were more often important for men - 35% - than women - 17%. Free transactions, including those in ATMs, were crucial for 12% of men and 10% of women, while bank's favorable deposit offers for regular clients - 10% of men and 7% of women. There were no significant differences between women and men in case of such elements like professional advisory of bank employees, fast and efficient settlement of technical and complaint issues, and honesty and reliability of a bank offer presented in media.

When selecting a bank, respondents also focus on factors related to a general trust to a banking institution. The importance of this element increased after a series of events in the banking market, which had a significant influence on a decrease of the level of trust in banks. The trend towards the importance of the provision of safety for customers is presented in Figure 3.





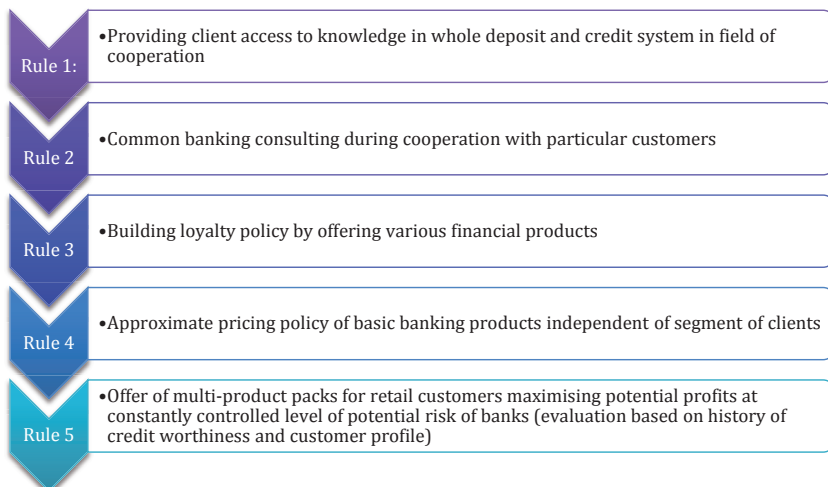
**Figure 3.** Elements of bank's image having a particular importance for customers when selecting a bank

When selecting maximally two most desired features of a bank's image, the most often element was the safety of a bank (35%). In next places, respondents selected: reliability of a bank (30%), solidity (27%) and closeness (24%). Slightly over 12% of respondents indicated efficient service and high level of the propriety of bank employees, while the universality of a bank was important for nearly 5.5%.

To summarise the importance of factors influencing the decision on the selection of a bank, we can categorize them in various ways. These factors are evaluated in numerous ways, and respondents have various preferences in this field. Thus, modern methods of building a competitive advantage should be based on proper relations with customers. Banks should know expectations of clients, as well as consider a revision of the functioning of branches.

#### 4. Methods of competition of commercial banks

Analysing various ways of perceiving definitions of competition presented in economical works, one can conclude that in the days of increasing competition, banks should follow five basic rules presented in Figure 4.

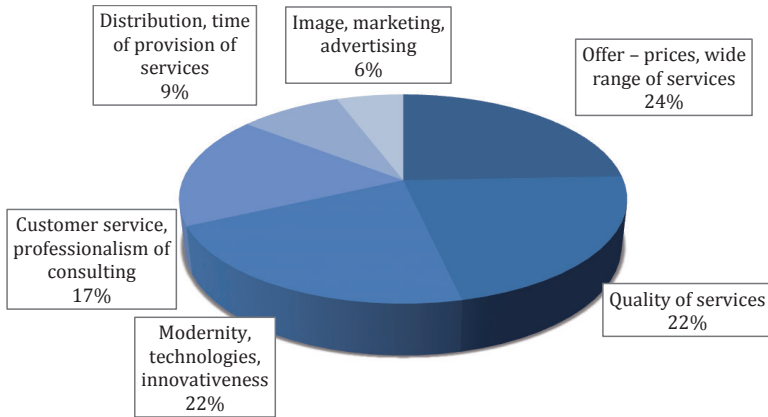


**Figure 4.** New rules of competition of commercial banks in the field of retail customers

Observing these rules may lead to a built trust and an increase of safety of a particular bank, in order to maintain a long-term cooperation in bank-client relation. Two first rules concern a direct cooperation with customers, having an influence on potential clients and, at the same time, increasing the quality of service. The remaining rules are related to an internal policy of banks, aimed at building durable relations based on the social justice and maximisation of benefits for customers, keeping the safety of run banking activity.

The loyalty of a client is a very broad issue, considering both psychological aspects, as well as a series of factors influencing the decision to cooperate with a particular bank. In this scope, we have to consider aspects related to a proper communication, a level of trust provided by a bank, adjusting an offer to customer needs or activities influencing emotional processes. In order to retain customers, a bank should properly recognize their needs and adequately adjust an offer. What is more, proper analytical departments should verify such aspects like factors hindering a decision to finish the cooperation or having short-term temporary relations of a client (e.g., a selection of a bank solely because of a possibility of a single benefit).

A set of presented factors has a general influence on such aspects like an image and value of a bank, what, in turn, influences its competitiveness. Thus, as a result of the conducted study (Figure 5), it was decided to ask customers about fields which are essential to state that their main banks are better than the competition.

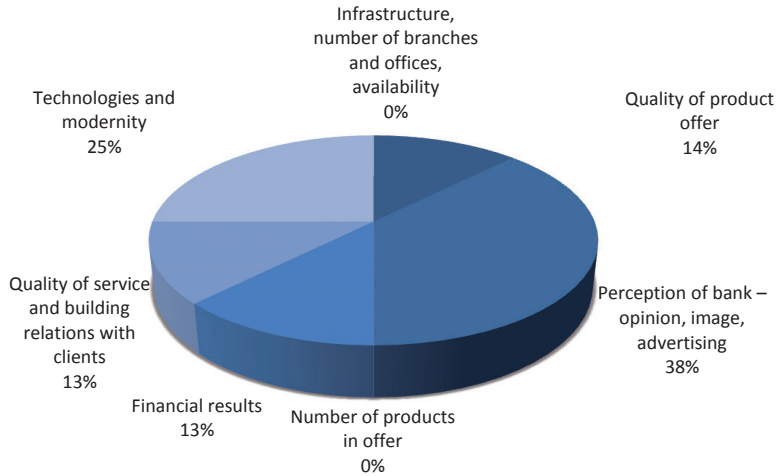


**Figure 5.** Elements influencing bank’s competitiveness according to retail customers

When evaluating the competitive advantage of a selected bank, respondents indicated that “their” bank is better than the competition in the aspects of the offered range of services and prices (24%), the quality of services (22%), modernity, used technologies and innovativeness (22%) and the customer service and professionalism of consulting (17%). Only nearly 9% of respondents chose a proper distribution and time of services, while 6% perceived the advantage of “own” main bank in the image, brand, and advertising. Basing on the above considerations, one may draw the conclusion that customers define the competitiveness in accordance with the most emphasized elements, i.e., prices, costs and expected profits of their products and services.

Competitiveness understood as the ratio of the level of prices and costs preferred by customers is not a key factor of selection of a bank. What is more, it is not an element forming stable bank-client relations and creating the feeling of loyalty of customers. Considering reasons why customers maintain long-term relations with their banks, they were asked why they are loyal to the banks they use.

On the other hand, when analyzing elements having an influence on forming of relations between banks and customers (Figure 6), the author used another research method and referred to another group of users of banking services.



**Figure 6.** Elements influencing formation of relations between banks and customers

In order to determine essential elements and to obtain professional opinions shaping significant relations between banks and customers, the author realized a survey among banking experts, using the CAWI method, the aim of which was to present those elements from the perspective of an employee, a banking expert. People having an experience in the field of finances and banking indicated that a great role in shaping relations between banks and customers is played by the image, advertising, and opinions about banks (Figure 6).

On the other hand, ordinary clients exclude from their opinions the essence of advertisements, the general image of a bank and several factors influencing the quality character of products. For a typical customer, an important role is played mainly by a location, bank's availability, safety, confidentiality and costs of services. These elements indicate not the quality of relations but rather the ease of their establishing. A lack of time is the main determinant for many people. What is more, customers would like to have an intuitive and easy access to their services using the Internet.

## 5. Conclusions

To sum, it is necessary to state that, from customers' perspective, a competitive advantage of a bank should be built on such bases like a cheap access to services, a convenient location and a quality of services provided by bank's employees.

Customers like to feel comfortable when they visit a bank branch and would like to have the branch as near home or work as it is possible. The most crucial issue indicated by customers is having a free service, at least in its basic versions, so free management of an account or payment or credit card.

However, the current situation in the global banking and economical market caused harshening of the policies of safety in the field of granting credits and loans, what resulted in the fact that banks started to transfer costs related to new tax law to clients. Acts of banks are now opposite to expectations of customers. Nowadays, when most of the banks introduced fees for even basic services, it is interesting what will be an incentive to stay at a current bank. Thus, we face the question what will be further activities of banks when they are not able to effectively compete with prices and low costs of their services. It is also worth to wonder if new rules of banks' functioning on the market were properly defined and whether they are not just temporary. In Polish banking sector, there are just sparse banks offering free accounts. Another question that should be asked is if such situation can change decisions of clients and launch a transfer of customers between banks. This may let us know how strong are factors of competing which are indicated by customers - are they only "wishes" or actual needs, which, when not being realized, will cause migration of clients to banks which are "better: in their opinion.

However, answers to these questions require longer observations, at least till 2019-2020 to present a long-term mechanism depicting changes caused by the introduction of the policy of a strictly economical character, considering the profitability of banking activity and not following expectations of customers to build a competitive advantage based on having a very large share and many clients.

To sum up, it would also be worth noticing that preferences and expectations of professional users of banking services shall be different from those of ordinary consumers. Thus, in the future, in order to have a competitive advantage in the market of banking services, a crucial element should be a conversation, exchange of opinions in relations with customers, knowing their needs and preferences, developing a common point of satisfaction and selection of such strategy to adjust to existing economical conditions.

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## Biographical note

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# SELECTED FACTORS AFFECTING THE CHOICE OF FINANCIAL INSTRUMENTS BY SMALL AND MEDIUM-SIZED ENTERPRISES IN POLAND

*Teresa Łuczka*<sup>1</sup> and *Joanna Małecka*<sup>2</sup>

## **Abstract**

*The ongoing economic changes have directly affected the development of SMEs. Although these enterprises make a major contribution to basic macroeconomic performance indicators and flexibility, they are capable of adapting to changing environmental conditions and dynamic in their operations, and still do not fully exploit the opportunities offered to them by the capital market. Legislative and administrative burdens on small and medium-sized enterprises are disproportionately high compared to those faced by large companies. On the one hand, market imperfections, increased pressures, limited access to research, innovation, supply networks and chains do not help SMEs to grow. On the other hand, through their resilience in the face of sudden economic changes and competitive pressures, SMEs demonstrate a determination that allows them to continue to influence economic growth of individual countries directly. Moreover, make the EU economy competitive in international markets. What are the key factors that impede the diversification of funding sources preventing their efficient growth? Why are SME owners and managers still regarded as having insufficient knowledge about the efforts to provide them with guidance and support, in particular at the European level? The article attempts to identify internal factors underlying the use of the available financial instruments by SMEs. On the basis of statistics and the author's research, an attempt has been made to identify internal factors that prevent or hamper the proactive use of modern capital market instruments by SMEs. From this point of view, it is also interesting to see the results of the author's own research on the approaches taken by prospective entrepreneurs who plan to start their own business within the next three years.*

**Keywords:** *sources of financing, financial instruments, small and medium-sized enterprises, external and internal drivers of the choices of sources of finance, location, ownership.*

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## **1. Introduction**

In today's globalized economy, small and medium-sized enterprises continue to be the predominant type of business by number, accounting for 99.8% of total enterprises. SMEs are fundamental contributors to economies: they account for approximately 60% of the GDP, employ close to 75% of business sector workers and fuel a substantial proportion of foreign trade. All this despite scores of challenges they face in the early 21st century: they tend to be capital-strapped, swept by the currents of internationalization and globalization, exposed to pressures from competitors, retail chains and supply chains, and struggling with limited access to research and innovation (Łuczka, 2001, pp. 55-70). However, in line with a well-established principle of enterprises of this size, which says that "survival comes first," they have endured and adjusted to new rules of the game showing tremendous flexibility and tenacity (Voynarenko, Dzhezdzhula & Yepifanova, 2016, pp. 126-129). In effect, with some characteristics that distinguish them from large companies, SMEs have been able to maintain their competitive positions while preserving their markets and helping to sustain market mechanisms. This resilience has allowed them to continue to make a direct impact on economic growth in individual countries and, beyond that, to effectively compete internationally (Małecka, 2016c, pp. 117-129).

Many factors restrict SMEs' access to capital markets (often barring such access altogether) preventing them from increasing their own and third-party equity through bond and share issues (see also Małecka, 2016b, pp. 11-24). Much fewer small and medium-sized enterprises than one would expect to use new opportunities in this realm (see Xu & Gong, 2016, pp. 581-584). What significant factors prevent them from diversifying their growth funding sources? Why do SME proprietors and managers lack or are believed to lack the knowledge necessary to achieve such diversification? Why are they not provided systemic guidance and support, especially at the European level?

## **2. Factors affecting the choice of self-financing and external sources of finance by small and medium-sized enterprises**

The sources of finance chosen by companies of various sizes reflect their overall profiles, their financial management as well as many other factors. Their selections are driven by the relationship between the categories of funding and specifically by those between self-financing and external funding (Łuczka, 2001, pp. 55-70; Małecka, 2016a, pp. 91-122). How small and medium-sized enterprises balance such proportions depends on multiple factors, which can most generally be categorized as either internal and external.



The literature points to such external factors as (1) the overall performance of economies, (2) the characteristics of individual states and specifically their financial systems, fiscal policies, the design of public loan endorsement and guarantee systems, (3) their locations in a specific country or region, (5) their industry, (6) banks and financial institutions, and particularly the companies' relations with their banks as well as any policies and institutional rules on bank loan access, (7) the competitive environment, and (8) their customer base and business partners. Meanwhile, internal factors are associated with the characteristics of individual enterprises and of the general business-size categories to which they belong.

A pivotal role in the external determinant of the ratio of self-financing to external funding that characterizes small and medium-sized enterprises is their location and the business territory they cover. With respect to location, it is critical to account for differences between the influence of business environments in specific countries, nations, and regions. The relationship between funding source preferences and country and nation characteristics was highlighted by Aggarwal. The literature refers to such a link as the national culture effect (Aggarwal, 1981, pp. 75-88). Research by Hall, Hutchinson, and Michael found significant differences across countries in (1) views on the use of external funding, (2) companies' relationships with their banks, tax policies, the required scope of data disclosures, and (3) social and cultural differences (Hall, Hutchinson & Michael, 2004, pp. 711-731; see also Francfort & Rudolph, 1992, p. 10). Bell and Vos pointed out substantial dissimilarities between the ways in which SME owners approach external financing across various countries (Bell & Vos, 2009). Daskalakis and Psillaki found that the unique traits of entrepreneurs carry more weight with this respect than the country effect (Daskalakis & Psillaki, 2007, pp. 87-97).

The study of business locations as a determinant of the choice of finance sources was extended to include the effects of regional factors on company operations and companies' approach to managing their finances. The literature underlines that such effects can be seen predominantly in (1) social and cultural differences expressed mainly in entrepreneurs' approach to financing sources, (2) the structure and quality of the regional and local business environment and especially local financing and the local judiciary as well as, as noted by H. Nuissl and D. Czarnitzki, (3) the level of trust among members of the business community, which is a foundation for good interpersonal relations and, in particular, good business collaboration (Nuissl, 2005, pp. 65-81; Czarnitzki, 2006, pp. 335-357; see also Guiso & Sapienza & Zingales, 2004, pp. 929-969).

The regional and local institutional environment of small and medium-sized businesses is among the most vital factors affecting their owners' choices.

This applies in particular to the tradition (or the lack thereof) of organizing and formulating procedures for the use of publically-funded consultancies, support from regional chambers of commerce and industry and cluster building. What is more, small and medium-sized enterprises are particularly sensitive to the quality and efficiency of local courts and especially the length of proceedings brought to resolve disputes among businesses. According to the *Doing Business in Poland Report*, the average length of proceedings is 900 days, which is obviously enough to render a company bankrupt. In order to ensure that SMEs operate well in a region, claim Agostino, La Rocca, La Rocca and Trivier, it is critical that its court system work properly (Agostino et al., 2009, pp. 1-29). Therefore, these authors stress that “although an entire country operates under the same legal system, law enforcement may vary from one location to the next offering lenders varying levels of protection from borrower behaviors. Since the sophistication of financial systems and court efficiency varies across Italy, our country offers excellent insights into the mechanisms behind SME financial decision-making, with institutional factors providing a good illustration.” The authors’ study of Italy-based SMEs showed that “despite an ongoing integration of capital markets, it is also the work of local financial institutions that significantly affects SMEs – such institutions need to be well-developed to help SMEs access external financing sources” (see also Mafecka, 2016b, pp. 11-24). Local banks rely on the transparency of a region’s systems and on frequent and close interpersonal neighborly relations among them to minimize information asymmetries and lower transaction costs. In effect, local banks cushion the impact of lending discrimination against SMEs, protecting them from possible impediments in accessing bank loans, especially at times of restrictive central bank policies (Galbraith, 1957, pp. 124-133). Such difficulties have the effect of restricting the economic expansion of SMEs barring them from influencing such market characteristics as price and demand and, as a consequence, elevating their business risk.

The correlation between SME locations and their capital structures was also studied by the authors of this article in a survey of 359 micro, small and medium-sized enterprises in the Polish region of Wielkopolska. Their findings suggest that company locations influence the choices and proportions of finance sources. For instance, locations in cities with populations exceeding 150,000 had little effect on the proportion of own and external capital used in financing. Entrepreneurs preferred to use self-financing and commonly balked at borrowing money from banks. However, a marked trend emerged against this background of SME owners seeking trade credit and leasing: the popularity of the latter as a source of finance grew in proportion to town size in contrast to the correlation between trade credit use and town populations, which was negative.

As the study sample may have been overly homogenous with all of its members coming from the single region of Wielkopolska, it would be interesting to extend it to other parts of Poland.

**Table 1.** Sources of funding chosen by micro, small and medium-sized enterprises by location (in %)

SME location (town by population)	Capital structure				
	self-financing	long-term loan	short-term loan	leasing	trade credit
Rural	76.4	5.0	3.3	2.8	12.5
Town up to 5000	78.6	5.9	6.5	4.2	4.8
Town 5000 to 49,000	77.5	4.8	5.4	2.4	9.8
Town 50,000-150,000	79.4	6.1	3.1	4.1	7.2
Town > 150,000	78.3	4.6	2.9	5.8	8.4

### 3. Internal factors influencing the choice of sources of funding by small and medium-sized enterprises

As mentioned earlier, the choices of sources of finance by small and medium-sized enterprises are heavily influenced by internal factors. Such factors are associated with both specific profiles of businesses as well as entrepreneur characteristics (Table 2).

**Table 2.** Internal factors affecting the choice of sources of finance by small and medium-sized enterprises

Internal factors affecting the choice of sources of finance associated with	
Entrepreneurs	Enterprises
<ul style="list-style-type: none"> <li>• business-related and legal self-sufficiency</li> <li>• ability to take risks</li> <li>• age</li> <li>• sex</li> <li>• educational attainment/background</li> <li>• professional experience</li> <li>• self-esteem as business owner</li> </ul>	<ul style="list-style-type: none"> <li>• size</li> <li>• form of legal organization</li> <li>• territory covered</li> <li>• assets owned</li> <li>• years in operation</li> <li>• (pace of) growth</li> </ul>

One qualitative feature of small and medium-sized enterprises, which the literature agrees to be of most significance is the business-related and legal self-sufficiency of SME owners. Ownership rights put business proprietors in a de iure and de facto position to make all final supervisory and managerial

decisions on the part of their companies at their risk, unaffected by either the views or any controlling influence of other individuals. As a consequence, business owners rely mainly on their knowledge, experience and intuitions and reluctantly heed the suggestions of experts and advisors. They also tend to be unwilling to delegate powers and draw on external funding sources while displaying a preference for self-financing (Łuczka, 1995, pp. 109-122, Łuczka, 2013).

The approach of SME owners to capital sources and structures has been a research and debate topic since the 1960s, especially in the German literature, picked up in the Anglo-Saxon literature in the 1970s. The relationship was also described by Bolton, who noted that SMEs focus on maximizing profit while their owners seek to attain self-sufficiency and complete control over their companies. Therefore, business proprietors choose financing sources depending on how they influence the extent of their legal and business self-sufficiency. Levin and Travis also noted the unique role of business owners in making decisions regarding their companies and the resulting impact of such decisions on capital structure (Levin & Travis, 1987, pp. 30-32). The problem appears to be as valid as ever. Seventeen years later, Gregory, Rutherford, Oswald and Gardiner observed that small and medium-sized enterprises “are inherently sensitive and that their individual reactions may vary as widely as the personalities of their owners. This makes it very difficult to identify broad-based differences in their nature” (Gregory et al., 2005, p. 384).

The dominant position of SME owners is expressed, among others, in their borrowing mentality, meaning that entrepreneurs with operations of this size prefer self-financing and are very reluctant to use external capital and, in particular, bank loans. The mechanisms behind their choices are explained by pecking-order theory, which posits that business owners attempt to self-finance their projects first and only resort to external funding if they find self-financing to be impossible (Myers, 1983, pp. 575-592). This trend is reversely proportional to company size. Thus, SMEs have a particular preference for short-term loans, which allow them to minimize the time they remain under the control of banks.

The authors’ research in the region of Wielkopolska (Table 3) has found that the share of equity-financing in total financing declines with company size. The share was particularly high in the firms in which their owners were the only people doing the work (91.1%) while amounting to less than 60% in medium-sized businesses.

Meanwhile, a positive correlation was observed between company size and the use of external funding, including short- and long-term bank loans. The specific shares ranged from 3.7% for self-employed individuals to 9.2% in small firms to 17.9% in medium-sized enterprises. While the use of leasing

as a financing source rose more than eight-fold with company size, it was never a particularly significant source of funding. A key role in the financing structure was played by trade credit, especially in medium-sized enterprises (17.5%) (Table 3).

**Table 3.** Choices of funding sources by enterprise size (in %)

Number of employees	Capital structure				
	self-financing	long-term loan	short-term loan	leasing	trade credit
Self-employed	91.2	1.5	2.2	0.8	4.3
1–9	78.6	5.3	3.9	3.3	9.0
10–49	71.5	6.3	5.2	5.8	11.2
50–249	58.4	10.3	7.6	6.3	17.5

Note therefore that small and medium-sized enterprise owners choose financing sources with a view to preserving their company’s existing ownership structures. This is further evidenced by the findings of a study conducted by Bank Pekao, which is summarized in Table 4, and which suggests, in 2012, that 46% of micro-enterprises and 36% of small enterprises in Poland refrained from using external capital as a source of financing due to their subjective “reluctance to incur debt,” driven by their specific borrowing mentality. The reluctance to borrow from third parties was also widely varied across businesses of different types: a much higher propensity to use such sources was displayed by micro- and small trading (51%) and manufacturing companies (50%), a substantially lower one, down by approximately 10 pp., by service and construction firms. A similarly high share of micro (43%) and small (49%) business owners did not need to use the external capital to finance their growth. Such a need was more compelling in the service sector (48%) followed by construction (41%), trading (39%) and manufacturing (38%). A significantly lower share of micro (15%) and small enterprises (23%) preferred self-financing because it was cheaper to acquire and because of the hurdles they faced in procuring external financing, due especially to their low creditworthiness. A relatively small share of approximately 10% was the micro and small companies, which did not use external funding as they were unaware of the existing opportunities or for other reasons.

**Table 4.** Reasons why micro and small enterprises in Poland self-funded their growth in 2012 and 2016 (in %)

Specification	Reluctance to incur debt		No need for external financing		Lower cost of self-funding		No access to external financing (due to e.g. low credit-worthiness)		Unawareness of external financing options		Other	
	2012	2016	2012	2016	2012	2106	2102	2016	2012	2016	2012	2016
Poland's total	46.0	31.0	43.0	54.0	16.0	9.0	14.0	14.0	5.0	3.0	5.0	2.0
Business size												
Micro	46.0	31.0	43.0	54.0	15.0	9.0	14.0	14.0	5.0	3.0	5.0	2.0
Small	36.0	23.0	49.0	56.0	23.0	11.0	8.0	19.0	7.0	3.0	6.0	3.0
Industry												
Manufacturing	50.0	39.0	38.0	45.0	19.0	9.0	15.0	19.0	5.0	4.0	5.0	1.0
Service	42.0	28.0	48.0	57.0	14.0	9.0	14.0	15.0	5.0	2.0	4.0	2.0
Trade	51.0	32.0	39.0	53.0	17.0	9.0	14.0	10.0	5.0	3.0	4.0	2.0
Construction	41.0	32.0	41.0	54.0	15.0	8.0	16.0	16.0	4.0	4.0	7.0	2.0

\* The surveyed were given the option to select multiple answers

**Source:** own calculations based on (Pekao, 2013 and 2017).

A study of the trends emerged in 2016 shows that micro and small entrepreneurs were slightly less averse to debt (28-32%) while a half of the surveyed micro and small enterprises became more confident, they did not need external financing. Meanwhile, the difference between the cost of using one's equity compared to that of producing external capital, especially from banks, became less pronounced. The standings of micro and small enterprises changed somewhat from 2012 in terms of access to information on external financing and other factors (Pekao, 2017).

The preference for self-financing on the part of small and medium-sized enterprises can also be seen in the patterns they follow in funding investments. Specifically, the share of self-financing increased with company size. According to the Polish Agency for Enterprise Investment, the share of equity-funding amounted to 59.4% in small companies and 65.6% in medium-sized businesses. A relatively small percentage of the funds used to finance investment came from bank loans – it was 19.2%, in small and 16.6% in medium-sized companies. What is more, the trend to self-finance investment was also evident in large companies (73.7%) in proportions greater than in any other category (Table 5).

**Table 5.** Investment financing by businesses in Poland in 2011 by source and business size (in %)

Business size	Self-financing	State aid	Domestic loans	Foreign funding	Other sources	Non-monetary contributions
Small	59.4	3.3	19.3	10.8	6.5	0.7
Medium-sized	65.6	3.7	16.6	8.0	4.7	1.4
Large	73.7	4.7	6.0	5.6	4.5	5.5
Total	70.0	4.3	10.2	6.8	4.8	3.9

**Source:** own research based on Polish Agency for Enterprise Development, 2013.

The findings of the authors' own 2016 survey of economics majors, who are also prospective urban and rural area entrepreneurs (Table 6) is of great interest for understanding the determinants of funding source choices. The majority of the surveyed pointed to bank loans rather than self-financing as the source of funding their businesses. 8.5 pp. more prospective rural than prospective urban entrepreneurs declared they were willing to take out bank loans – such loans were the dominant source of financing in rural areas. One fifth of potential rural entrepreneurs chose self-financing, compared to 17.9% in cities. The surveyed prospective business owners additionally referred to other financing sources such as the Employment Office, the City Hall, municipal authorities as well as family members, with urban-based enterprises being twice more likely to use such sources (11.4%) than rural dwellers (6.8%). However, none of the prospective enterprises named any of the lesser known sources of funding, and especially capital market instruments.

**Table 6.** Order of funding choices by prospective entrepreneurs in urban and rural areas (in %)

Location	Self-financing	Bank	Other sources	Do not know	Total
Rural	22.0	49.2	6.8	22.0	100.0
Urban	17.9	40.7	11.4	30.0	100.0
Total	19.1	43.2	10.1	27.6	100.0

Note that a large percentage of prospective enterprises were unable to name any sources of finance and that, significantly, the share of enterprises lacking such awareness was lower in rural (22.0%) than in urban areas (30.0%). It is intriguing to see such unfamiliarity in a high proportion of prospective entrepreneurs majoring in economics and business administration in cities,

where access to various institutions and other information sources is both more varied and easier. As shown by research on the use of the Internet by SMEs (Łuczka, 2009, pp. 141-155), the world-wide web has played a significant role in promoting IT development in such companies. The study found that the entrepreneurs most likely to use the Internet were located in rural areas.

Studies on the external and internal determinants of the choices of business financing by existing and prospective SME owners suggest a specific information gap in this field. The matter requires further research aimed ultimately at ensuring that SMEs become more aware of the available options and better integrated into the system of financing offered by financial and especially capital markets. All in all, the extent to which businesses of any sizes are able to expand their operations depends vitally on the quality of the financial sector.

#### **4. Conclusions**

Small and medium-sized enterprises, which are the dominant forms of business in today's economies, are frequently capital-strapped, subject to internationalization and globalization, exposed to pressures from competitors and retail and supply chains and struggling with limited access to research and innovation. Against this background, the way small and medium-sized business owners approach finance acquisition is highly critical. Their choices depend on multiple external and internal factors, many of which may be unknown to existing and prospective entrepreneurs. These include such external factors as the country, nation and region effect as well as the internal ones associated with the characteristics of the entrepreneurs themselves and those of their businesses. While the awareness of factors affecting the selection of specific sources of funding is pivotal for financial management in businesses of that size, it should also become central to shaping state and local government policies towards SMEs.

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# CHOSEN ASPECTS OF INFORMATION ASYMMETRY FOR CAPITAL MARKET PARTICIPANTS

**Ewelina Pawłowska-Szawara<sup>1</sup>**

## **Abstract**

*The first part of the following paper focuses on the asymmetry of information on capital market. The second part, in turn, presents information flow on capital market in Modigliani and Miller's theorems. The third part enumerates main causes and consequences of information asymmetry. The last part is of empirical character and depicts the demise of Enron corporation. In the light of theories and empirical research presented in this article, one can conclude that information asymmetry is one of most significant causes of ineffective allocation of capital. The analysis of the issue of information asymmetry indicates that it has a negative influence on all capital market participants. It leads to the worsening of their financial situation, too. Thus, it seems well-justified that the reduction of information asymmetry would lead to a significant improvement in the functioning of capital market entities. On the one hand, development in technology and information technology is observable. It increases the possibility of information flow, and information access itself becomes less costly. On the other hand, economic organizations, capital market, and the law are becoming more and more complex and complicated, which without any doubt is an obstacle to the reduction of information asymmetry.*

**Keywords:** *information asymmetry, capital market, Modigliani-Miller theorem, Enron, accounting frauds.*

## **1. Introduction**

Possessing information has become one of the most relevant issues in the economy. The ability to access the information plays a significant role in the economic process. The amount of information possessed by an economic entity determines what decisions it is going to make, what its consequences will be, and can it lead to some advantage on the market. Imperfection and asymmetry of information on capital market can result in failures of transactions.

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Information asymmetry is one of the phenomena which have an influence on market failure as a mechanism of resource allocation in the economy. Possessing information plays a significant role in the economic process. The scope of obtained information determines what decisions are made by a given economic operator. Also, how much information an economic operator possesses can determine whether he or she can gain market advantage over his or her competitors. Information asymmetry on capital market can be the cause of failures of transactions. It can lead to the so called moral hazard, too. Information asymmetry is a vital factor leading to decrease in effectiveness of choices made by economic entities. Its presence is the result of diversification of the structure and character of contracts signed by an enterprise. An in-depth analysis of the literature on this subject as well as a descriptive analysis and a case study of chosen aspects of information asymmetry are presented in this article. Its aim is to analyze some aspects of information asymmetry for capital market participants. Also, this paper is concerned with the flow of information on the capital market with regard to the causes and consequences of information asymmetry.

The financial crisis made it clear how vast information asymmetry is in the whole capital sector, where market participants, and, at the same time, participants of the global economy, are at huge risk caused by financial subjects. Those, in turn, are privileged because they are in possession of more information. The aim of the following article is to analyze chosen aspects of the asymmetry of information for the participants of capital market. The work is focused on information flow on the capital market regarding causes and effects of information asymmetry.

The first part of this paper is concerned with information asymmetry on capital market. The second one depicts the flow of information on capital market in Modigliani- Miller theorems. The third part is focused on main causes and consequences of information asymmetry. The final part is of empirical character and presents the example of Enron's demise.

This paper contains an extensive analysis of the literature on this subject, research methods in the form of descriptive analysis and a case study. At the end, there come some final remarks.

## **2. Information asymmetry on capital market**

One can talk about the asymmetry of information when two parties are in possession of knowledge about one another that is not easily available for others (Begg, Fischer & Dornbusch, 2007, p. 345). Entities which do not have full and true information are particularly exposed to the risk of taking unfavorable financial and economic decisions. Asymmetry of information is

one of the factors that cause failure of the market as a resource allocation mechanism in the economy.

The problem of incomplete information is present in almost every market and in every transaction where one of the parties has knowledge that is unavailable for the other one. For example, about the object of the transaction or about other factors which have an influence on the price and conditions of the contract (Stiglitz, 2004, pp. 97-98). Asymmetry of information is the reason why it is difficult or very costly for the consumer of goods and services to obtain information about their quality. There are significant limitations here for individual customers who possess neither enough knowledge nor resources to be able to assess the institution's financial condition. This limitation can, in turn, lead to the loss of invested capital (Czekaj, 2008, p. 63).

Asymmetry of information is an integral part of capital market and can be observed between the management board, investors, and clients. Due to the functions, the management board has undoubtedly a much broader knowledge about an enterprise than current and prospective investors who have the right to use data which is publicly available. For instance, such data is revealed by an entity in the form of financial reports. Information advantage possessed by the management board is one of the most crucial reasons for capital market failure (Healy & Palepu, 2001, pp. 405-407). One of the basic assumptions of neoclassical economic ideology was having perfect knowledge and information by participants of the market. In this case, it is assumed that there is a perfect flow of information between entities. However, the modern microeconomic approach rejected this idea.

Akerlof formulated one of the first formal models describing the adverse selection. This phenomenon can be observed when there is information asymmetry between market participants. In the article titled "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," Akerlof analyzed the situation on the second-hand cars' market (1970, p. 488). The author assumes that the seller has more knowledge about the condition of the car than the purchaser. In this way Akerlof presented the concept of markets characterized by asymmetrical share of information, indicating second-hand cars' market where the seller has full knowledge about the quality of the product he or she offers.

The buyer, however, has limited knowledge about the given product, which means that he or she also lacks in knowledge about its quality (Klimczak, 2006, p. 27). The literature on this subject indicates that information asymmetry is the reason for the "fragility" of financial instruments and high susceptibility of capital markets to instability. One can talk about information asymmetry when the scope of knowledge possessed by two sides of the transaction is very varied (Polański, Pietrzak & Woźniak, 2008, p. 54).

Issues presented above, connected with transactions on markets and the disproportionate knowledge of the buyer and the client can be related to an enterprise and its stakeholders. Imperfect information is subject to numerous discussions in contemporary theories of enterprises, which constitute an alternative to the neoclassical theory. Asymmetry of information constitutes a vital factor which is the cause for lowered effectiveness of choices made by a company. This decrease in effectiveness is the consequence of variations in structure and character of contracts between an enterprise and other parties (Gruszecki, 2002, pp. 127-129).

Asymmetry of information has many consequences, which impair the functioning of the whole capital market, making it more difficult for investors to choose projects with the highest rates of return. Moral hazard is a follow-up of asymmetry of information. It happens when parties of the contract make an arrangement, but in the meantime, one of the parties- the one that obtained information advantage- acts contrary to the agreement. This, in turn, results in more advantages for one party and increased losses for the other one (Jensen & Meckling, 1976, p. 152).

Clauses or agreements with complete and detailed knowledge of the transaction usually contain too much information. In practice, investors in capital market are unable to get acquainted with all of the conditions of the transaction. Additionally, part of the conditions may be incomprehensible. According to TNS Polska report, 20% of respondents have never read documents connected with the transaction before signing up the agreement. Only 10% of respondents do it in case of investing larger sums of money. 18% of respondents do not familiarize themselves with the conditions of the agreement because they rely on information given to them by the financial institution's representative (2012, p. 6). This example proves how easy it is for financial institutions' representatives to reveal only the information they regard as convenient for them.

In general, capital market participants are as follows: issuers of financial instruments, intermediaries in sales and investors (Thiel, 2010, pp. 100-103). Apart from subjects mentioned above, media and authority supervising market operators, i.e., Financial Supervision Authority (KNF) play a significant role in the circulation of information. It is worth mentioning that regarding the functioning and aims of members of the market trade, the media and KNF act as a link in the chain of information. Taking into account the big complexity of information circuit on capital market as well as the limited size of this article, all possible channels for circulating information will not be mentioned. Only the most relevant examples from this article have been included.



### 3. Information flow on capital market in Modigliani-Miller theorems

Nowadays, information constitutes one of the most valuable and common goods necessary to make right decisions. Information flows not only through traditional channels but also in electronic ones. With such vast quantities of information, the chance of coming across imperfect information (i.e., out-of-date, inexact, or inadequate one) is getting bigger and bigger, which does not allow its recipient to draw right conclusions and take rational actions (Wojciechowska-Filipek, 2014, p. 1).

Incomplete information on capital market plays a significant role in Modigliani and Miller's theorems. Their fundamental theories concerning the enterprises' finances were proven at the turn of the 1950s and 1960s. For those achievements, they were awarded the Nobel Prize in economics. Although they did not use any well-developed econometric device and implemented only simplified assumptions, their theory about capital structure has been recognized as one of the most influential in the funding of businesses (Westerfield & Jordan, 1999, p. 542).

Today, Modigliani-Miller theorem is understood as four separate theories formulated in a series of three articles. The first publication was issued in 1958 and was entitled "The cost of capital, corporation finance and the theory of investment" (1958, p. 3), the second one was "Dividend Policy, Growth and the Valuation of Shares," published in 1961 (1961, pp. 411-433). Finally, the last one appeared under the title "Corporate Income Taxes and the Cost of Capital: A Correction" in 1963 (1963, pp. 433-443). The first theory says that the value of an enterprise does not depend on the debt-source of financing ratio. According to the second theory, financial leverage of an undertaking does not affect the weighted average cost of capital. It means that the cost of equity is a linear function of debt ratio to own capital. The third theory alleges that the value of an undertaking does not depend on its dividend policy. The last theory says that equity holders are indifferent to the enterprise's financial policy.

When proving the theory that weighted average cost of capital does not depend on capital structure, the authors referred to the leverage. Mainly, Modigliani and Miller indicated that an economic entity which takes advantage of the leverage neither does become more attractive nor is higher valued than the one which is not in debt. The investor who purchases shares of an enterprise which is not in debt has the possibility to obtain credit on his account and take advantage of the leverage (Modigliani et al., 1963, p. 4). The economists assumed that the debt is devoid of risk in the case of both enterprises and individual investors.

To turn this theory into practice, there must be a full symmetry of information between the creditor and the debtor regardless if the debtor is a company or an individual investor.

The question of a premium for risk in Modigliani and Miller's theorems touches upon the issue of information asymmetry. The authors have proven that weighted average cost of capital, WACC remains at the same level even when the structure of the capital changes. Yet, the cost of own capital changes proportionally with the change in capital structure. It must be underlined that together with the change of financial risk which is the result of funding structure, the shareholders change their expectations as to the rate of return from the investment in shares of a given company. All information concerning changes in capital structure is immediately available for all participants of the capital market and triggers in them certain reactions.

In the initial phase of research, Modigliani and Miller made an assumption that companies can be divided into groups or classes which are characterized by the return from shares of one company is proportional (in other words, perfectly correlated) to the return from shares from a company of the same group or class. Also, they made another assumption that the price of return unit from investment in a company of the same class or group must be identical because the same good cannot have two different prices on a perfect market. This conclusion is right only when there is full information flow. However, when there is no symmetry of information between the management board and all participants of the capital market, there is a risk that companies of the same class or group may have different prices for the unit of return.

#### **4. Causes and consequences of information asymmetry on the capital market**

As mentioned above, perfect transparency of the market where all its participants possess free and simultaneous access to information does not exist. It is true to say that participants in the markets do not have perfect information or knowledge and this assumption is also true for the capital market (Kubiak, 2009, p. 28). Nevertheless, there are entities privileged in this way that they possess more information than the others. Considering the specific nature of how corporations, banks or brokerage houses are functioning, there is only a small number of people who have knowledge about planned steps or financial results. It constitutes an advantage which enables to use information at hand directly or indirectly to buy or sell bonds on the capital market (Costantino, 2012, p. 438).

The source literature distinguishes four groups of subjects which can be privileged when it comes to the amount of information they have (Dusza, 1999, p. 37):

- political and economic leaders of the country;
- corporations- management boards and supervisory boards of companies present on the stock exchange have access to internal information like financial results of subjects as well as to plans for mergers and takeovers;
- investment banks – people who have access to information about investments, people who prepare operations in terms of finances;
- brokerage houses- brokers are in possession of information about the size of demand and supply for financial instruments of their clients.

In conclusion- the main reason for uneven access to information for capital market participants is the specific functioning of the groups mentioned above. It is impossible to prevent these people from having access to sensitive data. Limiting the number of people who have access to such information seems to be one of the possible solutions.

Moral hazard is a derivative of asymmetry of information. A specific example of moral hazard is known as Supervisor- Agent Theory, where one of the parties known as the agent operates with power of attorney of the other party, known as the supervisor. The agent has all essential information about his or her actions and intentions. The supervisor, however, has little of this knowledge and is not able to oversee the agent's actions to a satisfactory extent. Providing that the interests of both parties are not the same, the agent may have an incentive for abuse, that is, for improper actions taken in situations when he or she is not being monitored (Dembe & Boden, 2000, pp. 257-279).

The very presence of asymmetry of information, and, consequently, the lack of knowledge of market participants makes possible the situation when to maximize profits, fraudulent participants of the “game” act against the law. Many of such adverse activities could be avoided if there was no moral decline (Raczkowski, 2014, p. 27). The main consequences of moral hazard for the capital market are:

- use of internal information;
- churning, overtrade, twisting – criminal acts also connected with intermediaries' actions;
- manipulations of the market.

Use of internal information involves the use of confidential data in order to gain financial benefits in the result of purchasing or selling the shares of the company. According to the Act from July 29, 2005, about trading financial instruments, confidential information is understood as information which directly or indirectly concerns one or more issuers of financial instruments.

One or more such financial instruments of purchasing or selling those instruments, assuming that this information has not been revealed to the general public, could influence the price of those instruments or the price of their derivatives (Directive from 2005). Another abuse is the so-called churning which is about making operations not justified by conditions on the market in order to generate more commissions. A higher trade of instruments contribute to higher earnings of brokers and, at the same time, contribute to the increase in costs of commission for the investor. In turn, abuses like manipulations of the market involve creating an illusion for other market participants. It is, for instance, misinforming investors about possible exchange rate variations, to force investors to make investment decisions which are favorable for the manipulator, not the risk-taker.

## **5. Enron case study as an example of negative effects of asymmetry of information and moral hazard**

In the whole financial sector, there is much-proven research about the asymmetry of information and numerous manipulations in long-term investments (e.g., in capital expenditures, research, and development). Such manipulations are also present in short-term investments connected with the stock levels or expenditures on service. In both cases, we can talk about abuse on the management level, especially when it comes to current profits, even though there is no clear evidence about it (Schmidt & Buell, 2014, p. 3). Investment activities, which involve less or more informed market participants need special attention here. Those who possess more information are willing to complete the transactions only when they get good news; they buy more and short sell. However, transactions of which there is little information are in some sense regarded as random and uniform (Wei, 2014, p. 72).

The collapse of an American company Enron serves as an example of moral hazard connected with asymmetry of information. In order to maximize profits, the company concealed its financial situation from the stakeholders. A detailed description of asymmetry of information and moral hazard is included below.

Enron came into being after two energy companies had merged in 1985: Inter North from Omaha, Nebraska, and Huston Natural Gas from Texas (Pindelski, 2008, p. 28).

Its first activities were connected with putting in place three main strategies, i.e.:

- creation of fully integrated pipelines network, which would allow producing gas in one part of the country and, if needed, ship it to the other;

- activities aimed at deregulating prices of gas;
- implementation of fast and effective forms of internal communication as well as of external communication with the company's suppliers and clients (Kutera, Hołda & Surdykowska, 2006, p. 235).

Embarking on such a path and setting up these goals soon proved to be effective. Enron became the leader on gas market in the USA, which was followed by the company's expansion to other countries in the following years. During its peak period, it exported to 41 countries. The company developed and expanded its business activities, and the shares were becoming increasingly expensive each year. This trend continued until a big scandal broke out when the company was accused of falsification of documents such as financial statements (<http://www.crawfordsworld.com>).

Enron declared bankruptcy December 2, 2001, in the result of huge accounting frauds (Pindelski, 2008, p. 27). Similarly to the case of Lehman Brothers, the audit firm Arthur Andersen was involved here in "creative accounting." The spectacular collapse of Lehman Brothers bank leads to the upsetting of the financial stability of 30 other banks. It must be underlined that in 2005, before the bank went bankrupt, Standard & Poors credit rating agency rated the bank very highly, i.e., A+, due to the fact that the bank had a very effective system of risk management (Nawrot, 2009, p. 9, 39).

Main abuses in Enron's financial statements were a grossly underestimated level of indebtedness and highly overestimated level of profits. What is more, the undertaking created new companies in order to hide its debts (Pindelski, 2008, p. 29). On top of that, Enron founded almost 2000 special purpose entities, which, just like in the case of its new companies, were supposed to hide its accounting frauds (Gut, 2006, p. 62). After the company's abuses and creative accounting had been revealed, it was forced to correct their reports and statements, beginning from 1997. After the corrections, the results of the firm proved to be significantly worse which resulted in the loss of investors as well as other subjects' trust and consequently lead to its final bankruptcy.

As shown in the case study above, the asymmetry of information and lack of knowledge of capital market participants has to some large extent negative consequences for investors themselves.

Unfortunately, there are neither effective methods nor solutions which would prevent accounting manipulations from happening. The above example depicts that such frauds can be implemented on a dangerously large scale.

In some way, the growing globalization fosters all kinds of abuse. One of its qualities is the fact that information about institutions are becoming less and less direct. The reason for this is the rapid growth in indirect methods of obtaining information (e.g., by means of media). Asymmetry of information which triggers moral hazard is subject to simplified constructions and

manipulations. The intensity and scale of this phenomenon cause the feeling of uncertainty in the society (Sztompka, 2007, pp. 383–386). A hard-to-measure moral responsibility of people and subjects passing on information to the market remains one of the fundamental issues. (Zaleska, 2010, pp. 176–177). In auditing practice as well as in verification of financial statements by professional auditors there may be situations, where verifying financial statements is not aimed at formulating opinions, but at detecting errors and wrongdoings. Such activities, even if only to some extent, could protect stakeholders, lenders, and shareholders from substantial losses. The suggested solution can restore trust in data contained in financial statements.

## 6. Conclusions

The theories and empirical data described above indicate that asymmetry of information is one of the vital causes of ineffective allocation of capital. The analysis of the issue of information asymmetry depicts that its negative effects influence all participants of capital market and lead to deterioration of their financial and economic situation. It must be underlined that the asymmetry of information is the reason for the reduction in effectiveness of capital allocation as result of disturbances in the finance management process. Thus, it seems valid that the reduction of asymmetry of information would result in a significant improvement of the quality of functioning of capital market operators. On the one hand, development in technology and information technology can be observed, which increases possibilities for information to flow and makes the access to information less costly. However, economic organizations, capital market, and current law are getting more and more complicated and complex, which without doubt hampers the reduction of asymmetry of information. Today, we can observe on a global scale a growing interest of various international, regional or local institutions in diagnosing the sources, and reducing the asymmetry of information. The problem of asymmetry of information is of huge importance as it is necessary to reduce the negative effect it has on capital sector's as well as the whole country's financial stability.

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## Biographical note

**Ewelina Pawłowska- Szawara** is a Ph.D. Student of the Cracow University of Economics, the Faculty of Finances. The biggest success of Ms. Ewelina Pawłowska was twice awarded in the form of a prestigious scholarship from the Minister for achievements in science for the academic year 2010/2011 and 2012/2013 granted by the Minister of Science and Higher Education. She is a scholar of the Foundation Sapere Auso for outstanding achievements in science for the academic year 2011/2012 and she received a Ph.D. scholarship each year. She is particularly involved in the work of teaching at doctoral studies conducted by the university, because she is alone preparing educational materials, conducts exercises with the students, and participates in scientific research in the Chair of Financial Accounting at the University of Economic in Cracow. She is the author of 33 scientific articles. She participated in 22 scientific conferences.



# MODELING OF SYNERGETIC INTERRELATIONS WITHIN THE ASSOCIATION OF ENTERPRISES

*Zhanna Poplavska<sup>1</sup> and Oksana Goshovska<sup>2</sup>*

## **Abstract**

*Based upon the nature of the synergy phenomenon and possible types of synergy, the authors have developed a concept of synergy estimation approach within the alliance of enterprises. To project performance indicators of considered companies and investigating the influence of basic interrelations between them, an economic- mathematical model describing an alliance of companies with synergetic interrelations has been developed. The model is based upon economic modeling of each separate company's activity and takes into account their interrelations as well. The model of each company's activity represents its internal settlement procedures. The interrelations specific for the alliance are being considered, such as inflow of investments, dynamics of demand for the alliance product at the European market (but not necessarily in the region of the enterprise's location), dynamics of production output that represents the inter-alliance distribution of (production) orders. As well as, existent positive and negative reverse interrelations (the positive arise due to investments, the order of profit distribution (reinvestment), while negative – are expressed via the competition at the distribution of production orders and determination of sum of investments into the companies' capital). The alliance performance indicators, as well as the connection of the solution for the dynamic model system of equations stability and the conditions of realization of synergistic effect, are defined.*

**Keywords:** *synergetics, synergetic economics, synergetic effect, modeling.*

## **1. Introduction**

The theory of self-organization in its modern sense has been formulated mainly by Prigogine (Nicolis & Prigogine, 1977) and Haken (Loskutov & Mikhajlov, 1990). However, the synergetics by Haken (1980; 1985) had its

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precedents: synergy by Ulam (1964), and synergetic approach by Zabusky to nonlinear mathematical and physical problems (Zabusky & Kruskal, 1965). As of today, synergetics has a solid ground of the nonlinear analysis results, mathematic modeling, and enumerative experiment. This direction is being rigorously developed by different schools lead by Prigogine, Haken, Laszlo, Eigen, Varella, and others (Kniazeva & Kurdyumov 2001).

The task of synergetic economics is developing concepts of comparative dynamics in economic analysis that should include the theory of comparative statics as a partial case, and all the theories mentioned above. The work of Zhang (2013) contains generalization of existent economic systems dynamics analysis models and is an attempt at developing a single theory of the economic systems behavior depending on time. It concentrates attention on such aspects of the dynamic systems as nonlinearity, instability, bifurcations, and chaos. Synergetic economics is based upon the Haken synergetics and emphasizes the interrelation between linearity and nonlinearity, stability and instability, continuity and discontinuity, consistency and structural changes (Haken, 1991). Nonlinearity and instability are considered in synergetic economics as the source of diversity and complexity of economic dynamics, rather than the source of noise and stochastic phenomena, as in the traditional economics (Zhang, 2013).

Synergy became an important concept of strategic management as early as 1960s when many companies started to apply diversification strategies. Specifically, synergy was used as the basic reason for the development of diversified companies. A certain level of synergy between the components of the organization was considered as the basis of success for mergers, acquisitions, and diversification, as well as managing diversified companies. It was set that a synergy is one of the key components of the strategy of large organizations (Haken, 1980; 1991).

The concept of synergy was especially popular in 1960s-70s, and since then it constantly attracts the attention of managers. Initially applied for description of the diversified companies' activity by Ansoff (1999), the concept of synergy is also reflected in the works of Porter (1985), who asserted that existence of interrelations is the basis of corporate level strategy. He investigated value chains of different organizations for determining general types of activity and potential interrelations between them that would result in building and support of competitive advantages. Kanter (1994) also supported the idea that achieving synergy can serve as the only acquittal for the existence of an organization that embraces many different types of activity; her works are concentrated around the questions of corporate culture and organizational values.

Scientists continued to investigate the concept of synergy, perfecting theoretical principles and investigating practical soil of this concept (e.g., Bena & Li, 2014; Garzella & Fiorentino, 2014), special attention paid to the synergy potential in mergers (Galpin, 2014; Ghosh, & Ghosh, 2014; Gomes, Duncan, Angwin & Weber, 2013; Miller & Segall, 2017).

## **2. Applications of economic synergetics**

Economic synergetics may be considered as the science of the postnonclassic stage of scientific rationality development, to the origin of nonlinearity ideas, openness, and self-organization were caused. On the other hand, it may be considered as a theory and methodology of modern economic analysis.

Use of economic synergetics, in particular, gives an opportunity to define the basic methodological principles of economic analysis, namely:

- perceiving randomness as a constructive mechanism of economic systems evolution, emanating from the synergy paradigm;
- understanding the fact that a sophisticated system may not be imposed the development directions. Instead, it is expedient to search the methods of influence on the system in order to draw it at the proper motion trace, through the evolution attractors;
- realizing that social energy as the result of individuals cooperation has a crucial influence on the development of self-organized systems.

In practical economic literature, economic synergy is often described as the “2+2=5-effect” for accenting the phenomenon that companies try to attain such combination of types of activity when a combined return on the company’s resources is greater than the sum of its independent parts (Ansoff, 1999). The Webster dictionary defines synergy as “a mutually advantageous conjunction or compatibility of distinct business participants or elements (as resources or efforts)” (Dictionary, 2006). Fuller (1975) defines synergy as the behavior of integral, aggregate, whole systems unpredicted by behaviors of any of their components or subassemblies of their components taken separately from the whole. Itami (Itami & Thomas, 1987) distinguishes synergy as one of the portfolio strategy applications, separating it from the economy of scale. According to his opinion, synergy is at a higher strategic level compared to the economy of scale and envisages the creation of a new value, not just a complete use of existent resources/assets.

Proceeding from the phenomenon and possible types of synergy, the authors have worked out the concept.

This concept determines potential areas of evidence and estimation of synergy in a company management based on principles of a combination of the traditional strategic management approaches and methods that are based on the introduction of specific internal interrelations between its elements (Figure 1).

<b>General strategy development</b>		
Defining the company main development directions.	Internal environment investigation.	External environment evaluation.
<b>Defining potential areas for synergetic interrelations emergence</b>		
Interrelations influence on the competitive status.	Complementability of the internal environmental conditions	Complementability of the external environmental conditions.
<b>Evaluating potential synergy advantages</b>		
Evaluating the synergetic potential with quantitative indexes.	Evaluating the synergetic potential with qualitative indexes.	Selection of the indexes reflecting synergetic effect.
<b>Modeling a system with synergetic interrelations</b>		
Defining the values and main variables dynamics analysis.	Developing the model, reflecting the interrelations.	Selecting the model main variables and parameters.

**Figure 1.** Methodical approach to determining potential areas of evidence and estimation of synergy

The presented methodical approach is based upon consideration of an organization, or association of organizations, as an integral system consisting of components with interrelations between them. Such approach allows defining the potential areas of the interrelations origin and analyzing the consequences of their influence.

### **3. Model of enterprises with synergetic interrelations**

One of the universal methods that are used for quantitative estimation of synergetic effect is calculating the present value of the additional cash inflow. The value of the additional cash inflow plays a role of the variable, which allows analyzing changes in the activity of enterprises as the result of synergy application, not going into detail about the reasons for such changes.

This approach has been applied for estimating synergetic effect as the result of a strategic alliance of enterprises' activity in light industry. The components of the additional cash inflow and reasons for changes in the value of such components are also analyzed in the presented article.

In the presented model additional cash inflow is seen as the companies' net profit, presuming that all cash inflows and outflows are taking place in

the current month of activity, at the same period as the income and expenses are accounted. For simplicity reasons only the general form of equations describing the companies' activity is presented in the given article.

An economic mathematical model of an alliance of the enterprises, between the components of which exist synergistic interrelations, has been developed for forecasting of the investigated enterprises performance indicators, as well as for studying the influence of basic interrelations between them. The alliance model is based upon economic models of each separate enterprise and considers their cooperation and interaction (mutual settlements procedures). The model of each enterprise represents the order of its internal settlements with workers, suppliers of raw material, from sales (dynamics of receivables), settlements for services of subcontracted organizations, and the dynamics of capital and production taking into account market demand characteristics. The model of each company represents its internal settlement procedures with regards to employees, payments for raw materials, income from sales (dynamics of receivables), payments for subcontractors' services, and dynamics of capital and production output taking into account the characteristics of demand. The interrelations specific for alliance are being considered, such as inflow of investments, dynamics of demand for the alliance product at the European market (but not in the region of the location of the enterprise), dynamics of production that represents the inter-alliance distribution of (production) orders. Also, existent positive and negative reverse interrelations (the positive arise due to investments, accepted order of distribution (reinvestment) of profit, while negative are expressed in the competition at the distribution of production orders and determination of sum of investments in the company capital).

A system of equations describing the model dynamics has been developed as follows:

$$\frac{dX_j}{dt} = F_j, j = 1..4n \quad (1)$$

where

$\{F_j\} = F(t, X, Y)$  - is a vector function with the components described below.

The  $4*n$ -dimensional vector  $X(t)$  characterizes economic status and activity of each entity of the alliance in month  $t$ :

$$X(t)_{t=k*1month} = \{P_t^{(i)}, K_t^{(i)}, KA_t^{(i)}, Q_t^{(i)}\}^T \equiv \{X_j(t)\}_{t=k*1months} \quad (2)$$

Components  $X_j(t)$  ( $j=1..4n$ , where  $n$  – quantity of the entities (enterprises) in the alliance; given that  $i=1$  – is the index of the company-client,  $i=2..n$  – are

the indexes of the companies - production subcontractors) of the given vector are time dependent variables:

- accumulated profit over  $t$  months  $P_t^{(i)}$  for each of the entities  $i, i=1..n$ ;
- accumulated shareholders' capital  $K_t^{(i)}$  of the entity  $i, i=1..n$ ;
- accumulated invested (accepted) capital over  $t$  months  $KA_t^{(i)}$  of the entity  $i, i=1..n$ ;
- production output  $Q_t^{(i)}$  of the production entities during the month  $t$  (total production output for the period from the beginning of the alliance activity to the end of month  $t$ ),  $i=1..n$ .

It is also convenient to distinguish some additional variables that are the functions of the abovementioned:

- $NP_t^{(i)}$  - net profit of the enterprise  $i (i=1..n)$  in month  $t$  not considering depreciation (amortization) of capital.
- $Kpart_t^{(i)}$  – the part of the net profit of the other enterprises invested into the capital of enterprise  $i (i=2..n)$ .
- $NPpart_t^{(i)}$ - the part of the net profit of the enterprise  $i$  (retained earnings), retained after investing into the capital of other companies ( $i=1$ ).

For the case of independent activity of all the enterprises the variables  $KA_t(t)$ ,  $Kpart_t^{(i)}$  and  $NPpart_t^{(i)}$  are set to zero, while for the interrelated activity of the alliance these variables are higher than zero.

The vector  $Y \sim Y(t, X)$  encompasses external economic factors influencing the system dynamics, such as prices and characteristics of the demand for product, labor market conditions, taxation rates, as well as the internal variables depending on the external environment conditions:

$$Y(t, X)_{t=k*month} = \{v_t^{(i)}, p_t^{(i)}, f_t^{(i)}, fs_t^{(i)}, sc_t^{(i)}, l_t^{(i)}, L_t^{(i)}, \eta_t^{(i)}, \alpha_t^{(i)}, \beta_t^{(i)}\}^T = \{Y_j(t, X)\}^T ; j = 4n + i + 10(i - 1). \quad (3)$$

where

$v_t^{(i)}$  - is the transfer price (price, for which the production enterprise sells goods to the sales enterprise within the group)

$p_t^{(i)}$  - the sales price of the unit of goods

$f_t^{(i)}$  - fixed monthly general administrative expenses

$fs_t^{(i)}$  - fixed monthly sales expenses

$sc_t^{(i)}$  - variable sales expenses per unit

$l_t^{(i)}$  - variable labor expenses

$L_t^{(i)}$  - amount of the direct production personnel of the enterprise

$\eta_t^{(i)}$  - a coefficient characterizing the enterprise production capacity

$\alpha_t^{(i)}$  - the rate of profit reinvestment into the enterprise capital

$\beta_t^{(i)}$  - the capital depreciation rate.

Dynamics of external economic variables is described by the following differential equations

$$\frac{dY_j}{dt} = s \cdot G_j(t, X, Y), \quad j = 1..10n, \quad (4)$$

where  $\{F_j\}=F(t, X, Y)$  – is a vector function, components of the latter being most essential characteristics of the enterprises' economic activity, which are taken as the variables for describing the system status and dynamics in the given model.

$G_j(t, X, Y)$  – is a certain bounded function describing macroeconomics variables dynamics.

$s$  – is a parameter characterizing the rate of establishing the value of macroeconomics variables. Setting  $0 < s \ll 1$ , thus defining the time dependence of the macroeconomic variables quite weak on the model dynamics scale, we obtain:

$$\frac{\partial Y}{\partial t} \approx 0 \quad (5)$$

Therefore, both internal and external variables are described by the model; however, for the period of the alliance activity (36 months) the role of internal variables and parameters influencing them is considered as more significant.

#### **4. Influence of the model key parameters on economic performance indicators of the alliance**

The model has been applied for analysis of the alliance activity including enterprises from Ukraine, Denmark, and Poland functioning in light industry sector, grounding upon consideration of the types of interrelations across areas of activity (Table 1).

**Table 1.** Types of interrelations by the enterprise areas of activity

<b>Types of interrelations</b>	<b>Areas of activity</b>
Interrelations between the areas of activity due to distribution of functions of enterprises, general use of resources and markets	Strategic level of activity
Interrelations between the production, sales and administrative functions of enterprises; common use of resources	Production and sales activity
Interrelations due to distribution of profit between production enterprises and the enterprise-customer (sales enterprise)	Investment
Interrelations due to participating (investing) of strategic investor in the capital of enterprises	Financial

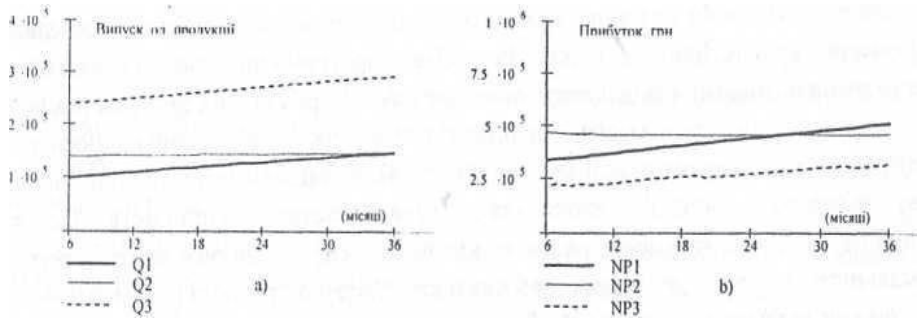
The authors have analyzed the influence of internal economic mechanisms of enterprises on the results of the associated activity on the whole and influence of coordination of activity within the limits of association on economic indicators of each particular enterprise. In the article, the analysis of influence is executed on the performance of enterprises of such parameters indicators:

- the level of labor remuneration in the regions, where the enterprises are located;
- residual prices after the mutual settlements are conducted between the members of the association;
- rates of reinvestment;
- maximal volume and annual increment of demand at the market;
- seasonality of demand at the eventual market.

As the result of the conducted analysis, it has been determined that optimal - the mutually beneficial for all participants mode of activity of association is reached at certain defined values of the managing parameters, among which the rate of reinvestment has a substantial meaning. Based on investigating the sources of synergy and properties of synergistic interrelations for the indicated association, it has been shown that coordination of economic strategy provides success of activity for each of the enterprises. Specifically, provides the increase of the profit level for enterprises at the optimal mode of activity of association for the use of inter-communications.

Numerical calculations of basic performance indicators in the enterprises have been executed, and patterns of their dynamics depending on the values of model parameters have been investigated (Figure 2). The time axis (absciss) reflects months from 0 to 36, and the value axis (ordinate) – correspondingly the production output (a) and the profit (b) for each company, all in UAH.





**Figure 2.** Production forecast (a) for the enterprises “Mriya,” “Emitex” “Miltex” (Q1, Q2, Q3) and net profit dynamics (NP1, NP2, NP3) (b) at the optimal state of activity\*

In the given model, the associations include one key sales company Miltex (Denmark), which is also the key internal investor, and two production companies – Emitex (Poland) and Mriya (Ukraine). The final product is being designed by Miltex, and production orders are split between the two internal production companies based on their capacity and transfer price advantages. Therefore, the characteristics of demand taken into account encompass the conditions of the European market, where the final good is being sold.

Among the financial key performance indicators, we suggest concentrating on profitability (as the measurement of current activity) and the total value of the capital (as the generic index of shareholders’ value). In order to distinguish between the independent and related activity, the profit and capital value for the alliance are compared to those of individual companies.

Therefore, for estimation of the economic effect related to synergy influence, the authors have introduced the following indexes:

- 1) Relative profitability index in the selected mode of activity of an enterprise and within the framework of association compared to the level of profitability while independently operating in month  $t$ ;

$$EP_t^{(i)} = \frac{\Delta P_t^{(i)}}{P_t^{(i)\Sigma}} \quad (6)$$

Here

$$\Delta P_t^{(i)} = P_t^{(i)} - P_t^{(i)0} \quad , \quad P_t^{(i)\Sigma} = P_t^{(i)} + P_t^{(i)0} \quad (7)$$

- are accordingly the difference and the sum of the enterprise accumulated profit value at this mode of the incorporated functioning /association ( $P^{(i)}$ ) and that of the independently operating enterprises ( $P^{(i)0}$ ).

The value of the index of economic effect from synergy is calculated for every enterprise. The index of  $EP^{(i)}_t$  possesses values in the range [- 1; 0], if an economic effect is negative, and within the range of (0; 1] if the effect is positive. The value of the index of  $EP^{(i)}_t$  is approaching one at high efficiency of the incorporated activity, or to -1, if the incorporated activity of enterprises is far less effective than independent activity.

2) The index of the relative change of the capital value as the result of association:

$$EKi_t = \frac{\Delta K_i t}{K_t^\Sigma} \quad (8)$$

where  $\Delta K_t^{(i)} = K_t^{(i)} - K_t^{(i)0}$  ,  $K_t^{(i)\Sigma} = K_t^{(i)} + K_t^{(i)0}$  (9)

- the difference and the sum of the value of the capital at this mode of the incorporated functioning ( $K^{(i)}_t$ ), and at the terms of the independent activity of enterprises ( $K^{(i)0}_t$ ) accordingly,

$K^{(i)}_t$  – value of the capital of an enterprise  $i$  in month  $t$  at the selected mode of the incorporated functioning,

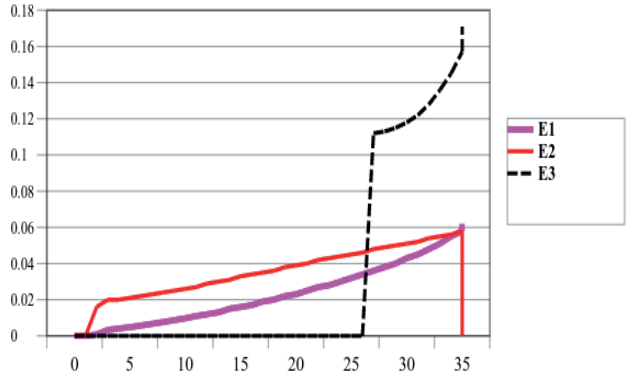
$K^{(i)0}_t$  - value of the capital of an enterprise  $i$  in month  $t$  at the selected mode of the independent functioning.

As the result of calculating the indexes that characterize economic effect from synergy in the association of enterprises, the following values of the index of comparative profitability have been obtained for the optimal mode of functioning.

3) General index of the influence of synergy on the level of profit and capital of an enterprise (illustrated in Figure 3):

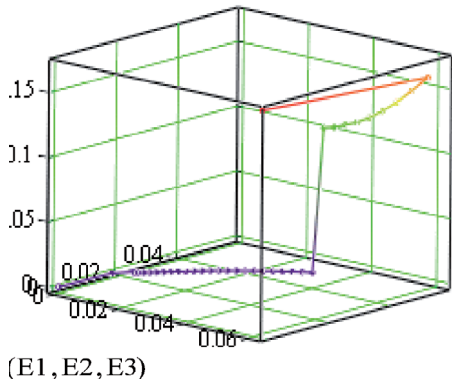
$$E^{(i)}_t = \begin{cases} EP^{(i)}_t * EK^{(i)}_t, & \text{for } (EP^{(i)}_t < 0) \cup (EK^{(i)}_t < 0) \\ EP^{(i)}_t * EK^{(i)}_t, & \text{for } (EP^{(i)}_t \geq 0) \cap (EK^{(i)}_t \geq 0) \end{cases} \quad (10)$$

This index is positive if both multipliers are positive, and it is negative if at least of the multipliers is negative. Therefore, for an optimal state of activity, the values of the general index of the influence of synergy on the level of profit and capital for all the enterprises should be positive, as illustrated in Figure 3 below.



**Figure 3.** Values of the indexes reflecting the effect of synergy for the enterprises “Mriya” ( $E^{(1)}$ ), “Emitex” ( $E^{(2)}$ ) and “TTP” ( $E^{(3)}$ ) at the optimal functioning mode.

General absolute index of the association efficiency is a 3-component index the components of which are the values of  $E(i)t$  indexes. In case of association of the three enterprises its value in the month  $t$  is represented by a point in the system of three coordinates  $E1, E2, E3$ . The value point is in the first octant if the effect of synergy is positive for each of the enterprises in the association (Figure 4).



**Figure 4.** Values of the indexes reflecting the effect of synergy for the enterprises “Mriya” ( $E^{(1)}$ ), “Emitex” ( $E^{(2)}$ ) and “TTP” ( $E^{(3)}$ ) in 3-dimensional space.

The obtained values of the synergy efficiency indexes for three years of the association functioning are presented in Table 2.

**Table 2.** Values of the synergy efficiency indexes for three years of the association functioning

Values of the synergy efficiency coefficients	Synergy efficiency coefficients
0.873	SE(1)
1.261	SE(2)
1.317	SE(3)

While the former two indexes compare profit and capital value for the related and independent activity, the latter two measure the combined effect of synergy on profit and capital of the analyzed companies. The optimal state of activity is characterized by the highest values of the presented indexes. Positive values of the indexes presented above are indicators of the positive synergetic effect.

## 5. Conclusions

Thus, the areas of potential cooperation between the companies have been defined, and a model describing dynamics of the association activity and taking into account interrelations between enterprises has been built. The main areas of interrelations between the companies are production, sales, capital investment and profit distribution.

The numeric solution for the model describing companies' alliance activity has been obtained. Four types of indexes were developed for measuring the synergy influence – the relative profitability index, the index of the relative change of the capital value, general index of the influence of synergy on the level of profit and capital, and general absolute index of the association efficiency.

Calculating the indexes allows defining conditions at which the phenomenon of synergy occurs. The highest positive values of the indexes refer to the most efficient state of the alliance activity; defining such highest positive values of the indexes helps to set the values of model parameters that refer to the optimal mode of the association activity, i.e., to the maximal size of the positive synergistic effect. The rate of profit reinvestment has been defined as the key managing parameter within the model.

The devised model is quite universal and general, and that is why it can be applied to the analysis of the activity of production and sale enterprises that function within different industries.

This model may be most effectively applied for the analysis of industries, where competitive advantages are developed based on specialization, vertical integration, and the economy of scales. The model may be fit with the aim of analysis and development the strategy of enterprises of light industry as well as other industries, where the structure of competition and cost structure, and characteristics of demand are similar to analogical features of light industry.

Potential areas of further studies in this area may include: assessing the influence of random variables on the alliance activity, as well as considering the time value of money and price of capital within the model.

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# ANALYSIS OF FUTURE MANAGER'S COMPETENCIES – COMPARISON OF COMPETENCIES LEVELS OF STUDENTS AT POZNAN UNIVERSITY OF TECHNOLOGY AND LODZ UNIVERSITY OF TECHNOLOGY

**Małgorzata Spychała<sup>1</sup>**

## **Abstract**

*Main tasks and competencies of managers in modern organizations will be presented in this paper. Next, stages of competency-based management will be characterized. In the empirical part of the study, the results of the researches will be analyzed. The study's aim was to present student's competence levels. The research was conducted among students at Poznan University of Technology and Lodz University of Technology. Both groups of respondents were students of managerial majors. In the last part of the paper, the comparison of student's competencies levels will be presented.*

**Keywords:** *competencies of future managers, competencies management.*

## **1. Introduction**

Managerial Competencies are one of the key success factors in an organization, which is operating in a turbulent environment. Manager uses the multidisciplinary knowledge and skills, which are necessary to lead the company in an uncertain and unpredictable environment (Nogalski & Śniadecki, 2001). Thanks to appropriate attitude and personal attributes, the manager can use the acquired knowledge and skills effectively. Manager in twenty first century performs task and roles in organization which are demanded by the new requirements of the labor market, internationalization of management, creating modern types of companies (e.g., network or virtual organization), decentralization of management, the need for continuous learning and increasing role of social responsibility (Janowska, 2002). Manager in the modern organization should stimulate creativity, introduce innovations and promote the concept of continuous learning based on realized projects (Dźwigoł, 2013).

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The paper answers following research questions: 1) Are future managers at Poznan University of Technology and Lodz University of Technology prepared to play such roles? 2) Do students have sufficient knowledge and skills to perform tasks in managerial positions?

The aim of the article is to present the main stages of future manager's competencies management. Next, methods and tools of evaluating knowledge and skills of students at Poznan University of Technology and Lodz University of Technology will be characterized. Those methods were used to measure student's competencies. In the next part of the article, the author will present self-assessments of student's managerial competencies and compare the results of PUT and LUT students.

## **2. Managerial competencies**

Whiddett and Hollyford (2003) define managerial competencies as "sets of behaviors that enable individuals to demonstrate the effective performance of tasks within the organization." The given definition presents a behavioral approach to competence management, whose precursor was McClelland. He focused on specific behaviors of an employee which determine whether he is effective on particular position/job (McClelland, 1973). The assumptions of this trend inspired the creators of many tools and solutions used in the practice of human resource management in organizations.

There are many classifications of managerial competencies (e.g., Katz, 1955; Porter, Woodcock & Francis, 1982; McKibbin, 1988; Rakowska, 1998; Bartkowiak, 2002; Kuc, 2003; Caproni, 2004; Kubik, 2005; Balezentis, 2006; Goleman & Boyatzis, 2007). Competencies can be divided into three categories: specialized/occupational (technical), social (behavioral), and personality. According to Boyatzis (1982), a job competency represents ability. An individual's set of competencies reflects their capability or what they can do. Boyatzis (1982) defines a competency as "an underlying characteristic of a person which results in effective and/or superior performance in a job." According to Boyatzis managerial competencies consists of two components: the tasks and skills, which allow an individual to perform a task within a specific function or job. Rapidly changing the environment and thus conditions in which managers are working cause modifications in the range and essence of manager's tasks (Morawski, 2008). Modification in tasks performed causes the need to identify new competencies.

Table 1 shows main tasks and competencies of manager in modern organizations.



**Table 1.** Main tasks and manager’s competencies in modern organization

<b>Manager’s tasks in modern organization</b>	<b>Manager’s competencies required to perform tasks in modern organizations</b>
Implementation and usage of modern technologies	knowledge of new, technological solutions ability to use modern technologies
Project team management	skills in team building skills in team work organization ability to motivate a team ability to control a project team
Implementation of innovations and creative methods of solving tasks	ability to use creative thinking techniques ability to think in a way which leads to unconventional solutions ability to develop new concepts or new connections with already existing ideas
Conflict solving ability in project teams	knowledge about the causes, types, and consequences of conflicts knowledge of conflict management methods (e.g., compromise, creative problem solving, mediation) ability to deal with conflict situations ability to take rational actions in difficult conditions
Negotiating business transactions (with the environment) and convincing team members (inside the team and inside the organization)	knowledge of preparing the negotiation process (negotiation strategy, BATNA) ability to prepare the negotiation process - creating proper negotiation strategy, developing BATNA ability to use negotiation techniques knowledge of argumentation, persuasion and motivation methods ability to influence others by using appropriate arguments and persuasion types
Communication within a team and organization	knowledge of interpersonal rules ability to clearly and precisely transmit the information ability to active listening knowledge and skills of nonverbal communication ability to public speaking ability to convince others
Communication with external environment	ability to communicate clearly and precisely between the company and the environment ability to establish contacts ability to build relationship with customers

<b>Manager's tasks in modern organization</b>	<b>Manager's competencies required to perform tasks in modern organizations</b>
Ethical management	knowledge about the concept of Corporate Social Responsibility ability to manage an enterprise with taking into consideration social and environmental interests, as well as relationships with various stakeholder groups knowledge about the factors shaping the ethics of the enterprise ability to build a positive image and trust to the company and its products and services
Predicting changes in the environment in order to be prepared for new tasks	knowledge of strategic thinking ability to predict changes and determine the action strategy
Information management	knowledge about modern IT tools and ability to use them knowledge and ability to acquire, process, sort and transmit external and internal information
Efficient time management and organizing own tasks	time management knowledge (e.g. alpen method, abc method, priority matrix, self-motivation) ability to plan own actions

**Source:** own work basing on results of research conducted for National Chamber of Commerce, Jabłoński (2009), Dzwigoł (2014), Rakowska (2016).

Managers in modern organizations will mainly manage project teams (Edum-Fotwe & McCaffer, 2000). Project Team's goals and tasks are determined by changes which occur in the turbulent environment. Therefore, the traditional competencies profiles of team members may be not sufficient. Changes in types and scope of the task, modify the required team members' competencies. By giving team members autonomy and freedom, they are more creative and responsible for the task performed (Krahn & Hartment, 2006).

Challenges facing tomorrow's business go beyond today's managerial practices (Dzwigoł, 2014). Managers in the twenty-first century should accept and even embrace fluidity and uncertainty as a way of life within organizational structures. They should deal with complexity, turbulence, and permanent changes (Kostera, 2008).

The ability to be an organizational knowledge manager is also of growing importance. Such manager collects, selects, evaluates, organizes, stores, extracts, presents, and distributes knowledge collected and recorded by various media (Breen, Farragher, McQuaid, Callanan & Burke, 2002).

### 3. Stages of future manager's competency management

New tasks performed by managers influence the dynamic nature of competencies and the need for appropriate competencies configuration tailored to the nature of an organization (Kor & Mesko, 2013). In the case of a deliberate, systematic and methodical approach to these challenges, it is possible to talk about the **competencies management**, which involves adjusting the knowledge, skills, and attitudes of managers to organizational goals and utilizing them in accordance with these goals.

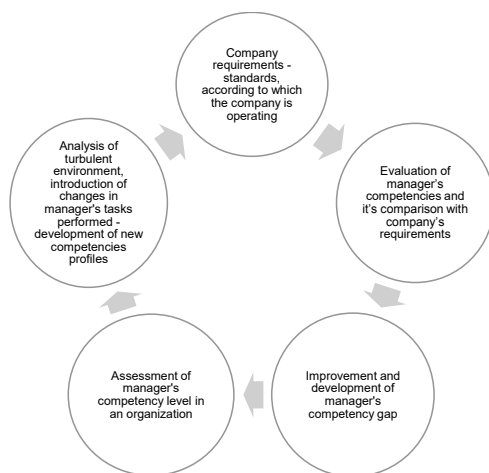
Following authors were dealing with the issue of competency management: Levy-Laboyer, 1997; Hollyforde & Whiddett, 2003; Filipowicz, 2004; Oleksyn; 2006; Dubois & Rothwell, 2008; Witkowski & Listwan, 2008. Siodor-Rządkowska (2010) defines competence management as a set of activities leading to an increase in the value of human capital and in the effectiveness of the organization. It includes defining competency standards, planning and organizing activities related to developing competencies in an organization, inspiring and motivating people to improve and to play new organizational roles, as well as controlling the course of those processes.

S. Whiddett and S. Hollyforde (2003) similarly describe the main stages of the competence management process:

- analyzing organizational needs and creating competencies profiles;
- managing employees (with their knowledge, skills, and attitudes) to particular positions/jobs and units in the company;
- encouraging employees to acquire and develop the necessary competencies;
- analyzing and evaluating relationships between competencies that are needed and available, and bringing together one another.

A key element of the competence management process is to set the requirements/standards for the organization. These standards are then the basis for assessing the competencies of managers who will perform specific tasks in the organization (Figure 1).

The first step in competency management process is an evaluation of manager's knowledge, skills, and attitudes. For specific tasks performed, an individual competency should be identified. Each organization should have competencies profiles for different positions/jobs. Those profiles reflect company's standards. An employee should fulfill those standard/requirements in order to perform tasks in a particular position.



**Figure 1.** Stages of manager's competency management in modern organization

**Source:** own study based on Dudzińska-Głaz(2012), Rakowska (2007), Siodor-Rządowska (2010), Whiddett & Hollyforde (2003).

Next, manager's competencies are being compared with competency profile. Based on this comparison, the competency gap (the difference between the current competency level of employees and the required competency level) of each manager can be identified. Any gaps should be addressed in an individual's training and development plan. Employee development should be driven by a desire to improve business efficiency and productivity (bottom line).

After conducting on-the-job and off-the-job training, the actual level of manager's technical and social competencies should be assessed.

The next step of the competency management process is to verify the tasks performed by the manager in the organization. Changes in tasks may result from turbulences in the environment, in which a company operates. Modification in tasks causes the need to identify new competencies and competencies levels.

During this process, managers constantly develop their competencies. While realizing complex projects they improve their skills and acquire knowledge in different areas. They not only learn while managing projects but also in collaboration with other teams and organizations. The process of manager's competency management is dynamic. The stages related with an assessment of managerial competency levels, developing competency's improvement plan and evaluation of turbulence in company's environment are constantly repeated. This, in turn, leads to establishing new tasks and delivers new challenges. Competency management should be regarded as a continuous process vital to business operations.

#### 4. Comparison of Student's Competencies Levels at Poznan University of Technology and Lodz University of Technology

Research on student's managerial competencies levels was conducted at the Faculty of Organization and Management at Lodz University of Technology in November and December 2014<sup>2</sup> and then continued to March 2015. The study was also conducted at Faculty of Engineering Management at Poznan University of Technology between 2015 till January 2017. The study involved a total of 594 LUT students and 269 PUT students from selected managerial studies. Students participated in the research were both full-time and part-time students, first and second degree.

**Table 2.** Characteristic of students

Students	Lodz University of Technology	Poznan University of Technology
Total	594	269
First degree	378	229
Second degree	236	40
Full-time	526	224
Part-time	68	45
Female	378	156
Male	216	110

Deliberately, first year and first-degree students didn't participate in the researches, because of the short time of the study. The first stage of the research's aim was to determine to what extent students of the Faculty of Organization and Management at Lodz University of Technology and the Faculty of Engineering Management at Poznan University of Technology are prepared to perform future tasks at managerial positions. Based on the competency profile of the manager of the future,<sup>3</sup> student's knowledge, skills, and attitudes were examined. For survey researches, a self-evaluation questionnaire was being used. In the questionnaire, each of the examined competencies was expressed in the form of 2 to 6 indicators (altogether 32)<sup>4</sup>. Indicators allowed assessing knowledge, skills, and attitudes related to particular competency. Indicators have been described in detail and evaluated by students on scale 1-8 according to the principles outlined in Table 3. The level of individual competencies was determined as the arithmetic means of the indicator batteries.

<sup>2</sup> The first part of researches concerning LUT student's managerial competencies was described for the first time in article Spychala & Matejun (2015).

<sup>3</sup> The competency profile was designed for the purposes of the project "Model of validation of competencies for employees of MSME of Wielkopolska's municipal sector carried out by National Chamber of Commerce; for the first time the profile was published in monograph's chapter (Branowska, Siemieniak & Spychala, 2012).

<sup>4</sup> Particular competencies were expressed in the form of synthetic measures.

**Table 3.** Characteristics of particular levels of manager’s competencies

Levels	Characteristics
1	Given competency is not absorbed. Lack of behaviors indicating its mastering and use in activities.
2	Acquisition of competency at a basic level. It is used irregularly. Required supervision of more experienced people and their support.
3	Competency sufficiently absorbed, it can be used by oneself in practice, but there are situations that require supervision of experienced persons.
4	Competency satisfactorily absorbed, it can be used by oneself in practice, in the performance of professional tasks.
5	Competency absorbed in a good level, which allows better fulfilling tasks in the given field and passing experience to others.
6	Competency absorbed in a very good level, which allows very good fulfilling tasks in the given field.
7	Competency absorbed in a great extent. The ability to creative usage and development of knowledge, skills, and desired attitudes in the given range of activities.
8	Expert level, the ability to creatively share their knowledge and skills with other managers and employees.

**Source:** own work based on results of research conducted for National Chamber of Commerce.

Cronbach alpha coefficients were used to evaluate the degree of consistency between multiple components (indicators) of a specific synthetic measure (Hair, Black, Babin, Anderson & Tatham, 2006)<sup>5</sup>. The research results show that all of the examined students evaluated their competencies in the range <3.43-4.84>. These ranges correspondents with sufficient and good level. Students at Lodz University of Technology evaluated their managerial competencies in the range <3.48-4.38>, while the respondents at Poznan University of Technology assessed their competencies in the range <3.43-4.84>. The lowest value is similar, while the highest value differs by half of an entire level. The students at both universities should be able to perform managerial tasks on a satisfactory and good level. In the case of lower grades, supervision may be required.

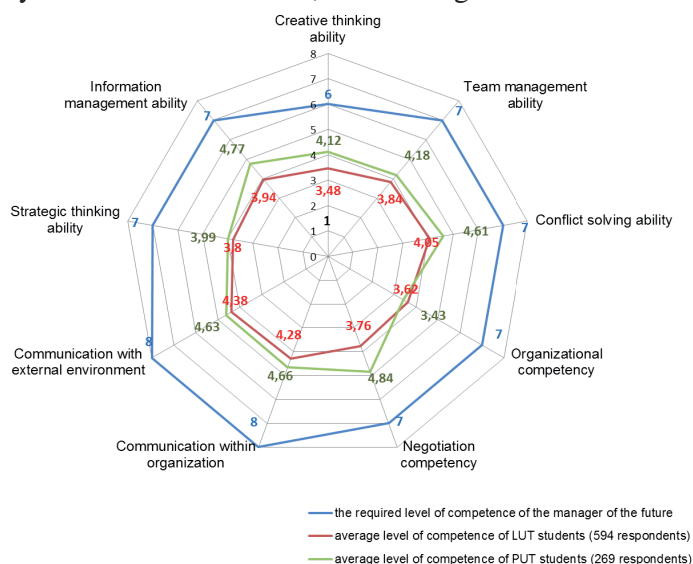
The largest difference in self-evaluation refers to negotiation competency. PUT students assessed this competency acquisition much higher (more than one entire level). All of the respondents at Poznan University of Technology participated in the subject “Negotiation and negotiation techniques (lectures and classes), while at Lodz University of Technology only in selected

<sup>5</sup> Cronbach’s alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. Reliability is how well a test consistently measures what it is supposed to measure. A score of more than 0.7 is considered acceptable, while the score of more than 0.8 indicates a high level of scale reliability (Sarstedt & Mooi, 2014).

specialization this subject was part of the curriculum. Formal education is not the only way to improve and develop negotiation skills. In this case, however, the correlation occurs.

Students at Poznan University of Technology believe that the largest competency gap refers to time management and ability to plan own activities. LUT respondents pointed the ability to use creative thinking techniques and ability to think in a way which leads to unconventional solutions.

Students at Lodz University of Technology evaluated the ability to establish contacts with the environment and building relationships with customers the highest from all of the competencies (4.84 – good level). A high level of competence “communicating with environment” may lead to collaboration with different organizations, building positive relationships with the company’s external environment, or attracting customers.



**Figure 2.** Competencies’ self-evaluation of students at Poznan University of Technology and Lodz University of Technology

Students at Poznan University of Technology evaluated the ability to acquire, process, sort and transmit external and internal information the highest (level 6, competency absorbed in a very good level). The manager’s of the future ability to communicate is at level 7-8, which means that students at both universities need to improve their managerial skills in order to be able to perform tasks in a changing environment.

## 5. Conclusions

According to Blaszczyk (1999), regardless of the variety of names, content, and number of managerial functions, they can all be reduced to the formal power used to influence employees and thereby promote the organization's goals. Within environments experiencing substantial change, the goals of the organization change, causing modifications in tasks and roles of the manager of the future. According to Rakowska (2007) a manager in the modern organization should be able to play following roles: "change agent, knowledge manager, manager - entrepreneur, project and team manager, coach, trainer, mentor, master, manager - diplomat and necromancer." Role lists indicate that the requirements for future manager's competencies profile are very high.

Do students of management specializations at Poznan University of Technology and Lodz University of Technology meet these requirements? Presented results of the research among the students at Poznan University of Technology and Lodz University of Technology showed their managerial competencies levels. Respondents evaluated their knowledge and skills at a satisfactory and good level. The largest competency gap relates to organizational skills and creative thinking.

Comparing the results of the competency levels of the examined students at PUT and LUT with the competency model of the manager of the future, it may be concluded, that none of the students assessed their competencies at a sufficient level to perform tasks in managerial positions. The main reason for student's competency gap is the lack of experience, working practice related to delegating tasks, team management, as well as the lack of knowledge in tasks, which managers perform in the workplace. Knowledge alone is not enough. In order to develop these competencies, new methods and techniques should be used to activate future managers.

Formal education, experience gained by participating in different projects, and above all engagement in everyday tasks (informal education) may shape future PUT and LUT managers to play the role of master, mentor, or project leader successfully.

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# PREREQUISITES FOR THE COOPERATION BETWEEN ENTERPRISES AND BUSINESS SUPPORT INSTITUTIONS FOR TECHNOLOGICAL DEVELOPMENT

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and Maroš Korenko<sup>4</sup>

## Abstract

*The area requiring special cooperation involvement is the undertaking and implementation of technological cooperation between business and business support institutions (BSIs) both at the national and international level. The purpose of this paper is to analyze the motivation of micro-, small- and medium-sized enterprises to undertake technological cooperation with BSIs. The specific objective of the study is to know the effects and benefits of the established cooperation for the technological development of the company. The analysis was based on own research results. The realization of this goal has contributed to a better understanding of the determinants of cooperation between the analyzed entities. It is also a contribution to further research of the authors in the area of creating system support instruments for the technological development of enterprises. As a result of the conducted research, it was found that it was the services aimed at internationalization of activities that were of the highest value for the BSI customers, and the main motive for undertaking business activity was the search for knowledge or competence in areas which were recognized as deficient in the enterprises. This was confirmed by the opening up to cooperation with R&R and perceiving as value the opportunity to gain the operational cooperation of scientists who can demonstrate major research results.*

**Keywords:** *innovation, cooperation, technology, enterprise, business environment.*

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## **1. Introduction**

Companies that build their innovation capacity using external support and cooperation with the business environment for innovation report the needs of building the innovative capacity of their enterprise and creating innovative solutions outside of it. The effectiveness of cooperation and the usefulness of business partners in innovation can be measured by the scale and intensity of the services provided in the area of technology, knowledge, training, and promotion. Particular emphasis is placed on pro-innovation services (Gródek-Szostak, 2016).

The purpose of this paper is to analyze the motivation of micro-, small- and medium-sized enterprises (SMEs) to undertake technological cooperation with business support institutions. The following research questions were posed:

- 1) What factors influenced the decision of SMEs to undertake technological cooperation with various business support institutions during the period in question?
- 2) What kind of technology support services for business support institutions did the SMEs benefit from during the period in question?
- 3) What are the changes in the expectations of entrepreneurs in terms of technological support provided by business support institutions during the period in question?

## **2. Characteristics of business environment institutions and their offer of technological services**

The review of the source literature does not provide a single, universally accepted definition or typology of business support institutions (BSIs). This phenomenon can be explained to a large extent by the fact that individual authors include different types of entities in their definitions. Burdecka (2004) defines business support institutions as non-profit or allocating income towards statutory objectives, as defined in the statute or equivalent document. Literature offers a comprehensive list of terms related to business support institutions. Przygodzki (2007) uses the notion of institutional infrastructure to define a set of institutions and organizations that are a kind of scaffolding for the functioning of economic entities. Matusiak (2010a) uses the term “support system” for all institutions supporting innovation processes.

The diversity of business environment institutions is also reflected in the fact that they include both non-commercial business support institutions (governmental or non-governmental organizations whose statutory goal is not to make a profit, but to promote entrepreneurship and innovation), as well as commercial companies providing services to business.

It should be emphasized that the BSI group includes innovation support centers (ISCs), which deal broadly with supporting local or regional innovation processes (Sikora et al. 2017; Gródek-Szostak & Kajrunajtys, 2010).

The definition of BSI used in this article is based on the definition formulated in the report by the Association of Organizers of Innovation and Entrepreneurship Centers (SOOIIP, 2012). According to it, a BSIs are defined as specialized institutions for local and regional support for innovation and technology transfer (Bąkowski & Mażewska, 2014). In Poland, the definition of entities classified as business support institutions by Matusiak (2010b) was adopted, which includes entities belonging to business centers as well as parbank financial institutions in this category. It should be noted that the proposed typology is not exhaustive. Taking into account the specific nature of the socio-economic development of a given region, it is also possible for other types of innovation support centers to operate, meeting the needs of a given region or system actions in support of innovation processes.

**Table 1.** Overview of BSI’s technological development support areas for SMEs

<b>Thematic areas of technological support</b>	<b>Technological parks</b>	<b>Technological incubators</b>	<b>Academic business incubators-preincubators</b>	<b>Technology transfer centers (TTC)</b>
Certification of solutions/technologies/products	x			
Consultation and selection of innovative ideas	x	x	x	x
Consultancy/information on the protection of intellectual property rights	x	x		x
Technological audit		x		x
Preparation of technology bid or offer	x	x	x	x
Support in contacting the technology vendor or customer	x	x	x	x
Market analysis and defining the market potential and technical capabilities for the development of the idea	x	x	x	x

<b>Thematic areas of technological support</b>	<b>Technological parks</b>	<b>Technological incubators</b>	<b>Academic business incubators-preincubators</b>	<b>Technology transfer centers (TTC)</b>
Support in developing a prototype solution or product or a test-ready product	x	x		x
Support in implementing the technology	x	x	x	x
Searching for specific technologies per request	x	x		x
International co-operation brokerage, internationalization	x	x	x	x
R&D services				x

Particular attention should be paid to the wide range of support offered by BSI, aimed at supporting the technological development of enterprises (Table 1). It should be emphasized, however, that individual areas of support are offered in parallel by several institutions, but there are forms of support, e.g., R&D services, which are offered only by a specific center (TTC). This is determined by the proximity of the scientific community, which is open to the transfer of their achievements to the economy.

Business environment institutions provide services to eligible entrepreneurs. Thanks to public support, they can be provided on preferential terms, and sometimes even free of charge. Among public support instruments for the technological development of enterprises aimed at professionalization of the cooperation with BSIs are the National Innovation Network (NIN) and the Enterprise Europe Network (Nesterak, Gródek-Szostak & Malinowska, 2016).

## **2. Cooperation of enterprises in the area of technological development**

The decision-making process of the company's technological development forces it on analytical cognition and understanding the essence of network interactions. The decision on technological development implies its influence, among others, on the production process, competitiveness, and internationalization, including knowledge and skills.

Choosing a partner for technological cooperation is one of the biggest decision-making challenges for companies, especially those in the SME sector (Filipowicz, 2011, Siuta-Tokarska, 2017).

The turbulent environment of emerging and functioning small and medium enterprises is characterized by continuous technological changes. These changes are becoming vital threats when ignored by the decision makers. If they are foreseen, they may provide an opportunity for the organization. In large organizations, this desirable readiness is supported by design and research departments. However, due to limited resources, companies in the SME sector must find a different path to new technology. Literature of the subject emphasizes the importance of cooperation in the technological development of enterprises (Table 2). Moreover, research demonstrates that innovative solutions result from the synergy of knowledge generated in an enterprise and knowledge gained from the environment through cooperation with various partners (Lewandowska & Golebiowski, 2016).

**Table 2.** The essence of business cooperation - literature

<b>Author</b>	<b>Definition</b>
Lipka (2004)	Collaboration towards a common goal based on identifying with that goal, as well as trust, loyalty and acting in the interest of all participants, while maintaining the accepted rules of communication and resolution of conflicts.
Karolczak-Biernacka (1981)	Participation of actors in a task situation; the actors create these situations without exemplifying the nature of mutual relations occurring between the participants of the situation.
Kaczmarek (2000)	Taking actions that are mutually compatible, complementary and positive in terms of their impact on the achievement of company goals.
Garbarski, Rutkowski & Wrzosek (1998)	A combination of two basic factors: the subject of cooperation and the willingness to take it.
Encyklopedia Organizacji i Zarządzania [Encyclopedia of Organization and Management] (1981)	Different types and kinds of relationships between individuals (individual entities) or groups (institutional entities) pursuing the accomplishment of a common goal or preventing each other from achieving different goals at the same time.

Sources of business cooperation may include two groups of premises, defined by French researchers as competitive logic and transaction logic. Competitive logic consists in striving to strengthen the company's position by increasing the scale of its operations and using the effect of experience. Partners combine resources of the same kind, such as R&D or sales networks to increase the effect of scale.

Transactional logic, on the other hand, seeks competitive advantage in exploiting the effect of specialization and complementarity of partner resources. Each party contributes resources of a different nature, allowing

each partner to improve its value chain and strengthen its competitive position (Kuboń & Krasnodębski, 2010; Romanowska, 1997).

Technological cooperation should be understood as the entire scope of interaction between companies, research, and technology transfer centers as well as other business-related institutions whose primary purpose is to improve existing and new advanced technologies and their implementation, resulting in new products and services. These relationships can be varied in character, from broad and long-term technological cooperation to narrow in scope and one-time. The relationships can also be created in three main areas of interaction with the environment (Adamik, 2008): “at the input” (to acquire appropriate resources, e.g., new technology (by transfer), R&D funds, intellectual resources); “at the output” (to acquire a client, e.g., interacting with customers in developing technology for their specific needs); “in action” (to get a partner or support, e.g., for joint R&D).

For a company, an encouragement to undertake cooperation in the area of technological development is a structured and widely available (through popularization by business support institutions), broad range of services supporting technological development and increasing competitiveness as well as their economic attractiveness in the domestic/international market. The business environment services catalog is offered both as a result of the statutory activities of the organization and its specialization, as well as the result of publicly funded projects and programs.

### **3. Methodological notes and selection criteria for research objects**

In the period 2013-2016, our research was carried out, with the overarching objective of acquiring source information on the determinants of technological cooperation of 78 micro-, small and medium enterprises with BSIs. Two study periods have been identified in the study structure, covering the years 2013-2014 and 2015-2016, respectively. The owners/managers were asked to identify the factors that led to technological cooperation with BSIs, as well as the effects and benefits of the established cooperation for the technological development of their company. In the selection process of the research sample, the investigated companies were divided by random stratification. The paper used the method of triangulation of research techniques: computer-aided personal interview (CAPI), individual in-depth interview (IDI) and participant observation.

Based on the section of the Polish Classification of Activities (Polska Klasyfikacja Działalności, PKD 2007), the selection of the sample was differentiated in terms of sections: C, F, G, J, P, Q (Table 3).



**Table 3.** Companies surveyed according to PKD 2007 sections

Section	PKD No	Participation in the researched structure (%)
C - Industrial processing	32.12.Z Manufacture of jewelry and related articles	6.41
F - Construction	42.21.Z Works related to the construction of transmission pipelines and distribution networks	11.54
	43.12.Z Preparation of the site for construction	15.38
G - Wholesale and retail trade; repair of motor vehicles, including motorcycles	45.32.Z Retail sale of parts and accessories for motor vehicles, excluding motorcycles	8.97
J - Information and communication	62.01. Z Software-related activities	11.54
M - Professional, scientific and technical activities	71.12.Z Engineering activities and related technical consultancy	19.23
P - Education	85.59.A Teaching foreign languages	8.97
Q - Health care and medical care	86.90 E - Other health care activities, not elsewhere classified,	17.95

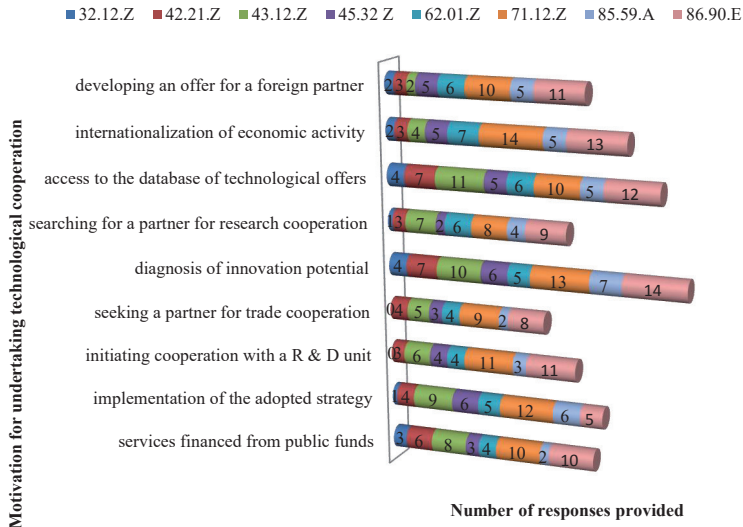
The entities that were invited to participate in the study were based in the Małopolskie voivodship. Of all the surveyed companies, 46% were based in the district of Krakow (23% in the city of Krakow, 12% in Tarnow and Nowy Sacz). The remaining 52% were entrepreneurs operating in the districts: krakowski (14%), nowosadecki (13%), bochenski (8%), wadowicki (8%), brzeski (6%), limanowski (5%).

More than 65% of the surveyed entities indicate strong competition in the core business, with 23.5% offering their products or services in foreign markets.

#### 4. Findings

When it comes to the motives for deciding on the establishment of technological cooperation with the BSIs, the entrepreneurs most often pointed to several concurrent conditions of cooperation (Fig. 1, the results do not add up to 100%). The investigated entrepreneurs most often (85%) pointed to the possibility of diagnosing the company's innovative potential.

In a more in-depth interview, it was clarified that the assessment of innovation was made through a technology audit.



**Figure 1.** Motives for undertaking technological cooperation with the BSIs (based on the number of respondents who indicated motives)

Source: Own study based on the conducted research

Entrepreneurs also sought access to a database of technology offers (77%), which allowed them to post their technology profile as well as a technology query. Interest in using the database was a consequence of the adopted strategy of internationalization of the business. Both internationalization and the desire to launch international technological cooperation were another motivation for cooperation (68%). In the in-depth interview, it was pointed out that the planned internationalization of activities would take place through the use of public funds, i.e., EU structural programs and national support instruments. The most frequently indicated instrument of internationalization was the participation as an exhibitor in foreign exhibitor-oriented fair events, held in Poland or abroad. Also mentioned was the catalog of advisory services that have been used in the area of internationalization: consulting on the adaptation of production (the product and its properties), or services to the requirements of the target foreign market (including, e.g., product dimensions, packaging, minimum standards of service provision). Consultancy on potential trading partners, helps the search and selection of partners on the targeted foreign markets, as well as preparation of cooperation offers and trade negotiations (including their implementation).

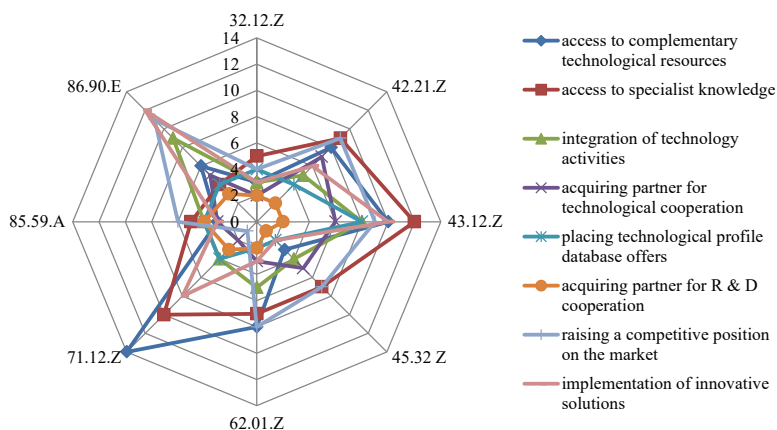
For more than half of the surveyed enterprises (59%), it was important to have the BSI services financed from public funds within the framework

of system projects run by the centers. In the in-depth interview, were the programs, under which the services were offered to entrepreneurs as part of the de minimis aid: the system project of the Polish Agency for Enterprise Development “KSI KSU consultancy for the Innovative” under Measure 5.2 of the Operational Program Innovative Economy 2007-2017, innovation audits as part of the Enterprise Europe Network.

An important motive for initiating technological cooperation with the BSIs (54%) was the initiation to cooperate with an R&D facility. In this area, entrepreneurs chose to cooperate with university TTCs. In the assessment of enterprises, it was noted that TTCs liaised with scientific staff and offered services financed from ongoing projects. As highlighted in the in-depth interview, the entrepreneurs were another “indicator” of the project. However, the cooperation with scientists has resulted in the realization of joint ventures, including those realized from public funds, the so-called vouchers for innovation. It should be emphasized that the R&D cooperation initiated in the years 2013-2014 is currently a permanent cooperation with 42 companies, which represents 54% of the research group.

In evaluating the benefits of established cooperation (Fig. 2), attention should be paid to the profile and character of the business. Entrepreneurs running engineering activity and the related technical consultancy (PKD 71.12.Z) considered access to complementary technological resources and expertise as the most important factor. For PKD 43.12.Z., an important benefit was the implementation of innovative solutions. For PKD 86.90 E., the advantage was to increase the competitive position in the market and to integrate activities in the area of technology.

However, regardless of the profile and type of business activity, each of the surveyed entities pointed to the benefits of the cooperation.



**Figure 2.** Benefits of the undertaken technological cooperation

In the in-depth interview, the respondents were asked to indicate factors impeding the establishment of technological cooperation with BSIs. Most attention was paid to excessive formalization and bureaucratization of support mechanisms, leading to the avoidance of innovative and risky technological ventures in favor of safe and standardized activities, lack of knowledge about the possibility of technological cooperation, and the difficulty of finding suitable technology partners.

It should be noted that our research allowed the verification of knowledge in terms of determinants of technological cooperation of enterprises with BSIs. The analysis of the factors that influenced the decision of SMEs to cooperate with different business support institutions (the first research question of this article) shows that the services aimed at internationalization of activities, taking into account their technological capabilities, were of the highest value for customers.

The range of services that companies used during the period in question (the second research question of this article) should be considered in the context of the offers made available by the BSIs. The analysis shows that their main motivation was to seek knowledge or skills in areas that were identified as deficient in enterprises (as confirmed by the continuing relationship with the selected R&D centers).

The analysis of changes in entrepreneurs' expectations of technological support provided by business support institutions during the period in question (the third research question of this paper) was performed as a comparison of the distribution of responses for the years 2013-2014 and 2015-2016. A change of more than 10% applies to only a few areas: finding a partner for research cooperation (an increase of 21%); initiation of cooperation with the R&D unit (16% increase in indications); preparation of offer for foreign partner (decrease of indications by 11%); access to specialist knowledge (an increase of 13% was recorded). A change of the expectations of the SMEs in terms of technical support provided by business support institutions, suggests opening up to cooperation with the R&D sector and perceiving it as value to gain the operational cooperation of researchers who can demonstrate significant research results.

## **5. Conclusions**

With increasing awareness of SMEs, there is a growing demand for specialist support in the area of technological development. The micro-, small- and medium-sized companies that co-operated with BSIs, pointed out that the decision to start the cooperation was prolonged due to the unawareness of the need for external services. The lack of needs was due to the subjective feeling

of satisfaction with business activities, but in practice, it was conditioned by the lack of knowledge about the BSIs technological services and the benefits they bring.

As confirmed by our research, choosing the right technology is one of the biggest challenges for SMEs. The co-development of new technologies and/or their transfer related to acquiring new knowledge enables small enterprises to produce more competitive products and services and foster the creation of new, innovative solutions. Therefore, small and medium-sized enterprises should actively seek opportunities to collaborate in terms of technology with actors in the broader business environment.

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# APPLICATION OF THE POSTULATES OF SUSTAINABLE DEVELOPMENT IN FAMILY BUSINESSES IN THE LIGHT OF EMPIRICAL RESEARCH

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## Abstract

*The article presents the topic of sustainable development, as part of the development of the company directly conditioning the family relationships. The paper also addresses the concept of work-life balance, and it presents the results of research carried out in the family businesses. Results showed differences between the application of the demands of sustainable development between owners (men and women) of family businesses and areas, marginalized by both sexes.*

**Keywords:** *family businesses, sustainable development.*

## 1. Introduction

The term *sustainable development* gained its popularity from the Brundtland Report (1987) entitled *Our Common Future*. The report indicated problems related to economic growth and its consequences for the environment (Emas, 2015). It showed the need for economic development, which is unavoidable and, at the same time, socially and environmentally sustainable (Our Common Future Report, 1987). One cannot while addressing the topic of sustainable development, omit the aspects of knowledge exchange and its acceleration (Kałkowska, & Włodarkiewicz-Klimek, 2015; Szafranski, 2015; Włodarkiewicz-Klimek & Kałkowska, 2011; Górny, 2015). The elements of sustainable development are noted by researchers involved in various areas of business activity, beginning with strategic problems (Dahlsrud, 2008; Klliath & Brough, 2008), on to those

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connected with operational aspects (Sadkowska, 2013; Kujawińska, Vogt & Wachowiak, 2015; Saniuk, Jasiulewicz-Kaczmarek, Samolejova, Saniuk & Lenort, 2015, Górny, 2012). Irrespective of the scope in which the postulates of sustainable development are used, the term can be defined as the concept that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Our Common Future Report, 1987), which inscribes itself into the analysis of family businesses' growth. As such, the analysis takes account of future generations' needs and interests almost automatically.

Social criteria observed in the operation of businesses are seen as a reflection of their responsibility, both in relation to employees (Jasiulewicz-Kaczmarek & Saniuk, 2015), local community and other groups of stakeholders. In family businesses, the criteria of the so-understood responsibility can be viewed as activities that ensure a durable and stable growth of the business. As a result, the process of generational change is underway, and the founder of a business subjugates his/her vision of growth to a planned business take-over by successors (Więcek-Janka, 2013). This aspect is closely linked with the idea of sustainable and lasting development (Lewandowska, & Hadryś-Nowak, 2012), which is also significant in taking care of the environment – its quality (Jaźwińska, 2014) having an effect on family health and making use of natural resources.

It is also essential, from social aims, to maintain a balance between professional and private life in the context of involving family in business and business in family. With reference to family businesses defined by Handler as “the family structure of ownership, exercising strategic control by the family, family members' participation in management and involving more than one family generation in business operation” (Sułkowski, 2011), sustainable development plays a single role. It is connected with maintaining balance not only between an enterprise and the environment but is strictly tied to work-family balance due to the specific character of family businesses – direct influence that running business activity exerts on family life. The mutual overlapping of business and family spheres makes it difficult in family enterprise to separate business processes from processes arising in family (Lewandowska & Hadryś-Nowak, 2012; Mazur-Wierzbicka, 2014). An important factor is an emotional sphere shaping family relationships which are different than in other types of businesses. Lewandowska and Hadryś-Nowak (2012) point to the continuity of family businesses as being the owners' overriding aim whose achievement, apart from generating profit (result of business achievements), is to ensure the existence of family future generations (election of successors). The aim of the paper is to diagnose the degree to which the postulates of sustainable development in family businesses are followed and to indicate the essence of work-life – family-life balance, considering gender division.

## **2. Work-life/family-life balance as a specific challenge for family businesses**

In each family business, business and family spheres mutually influence each other. Business is often the area where family life takes place. This process may lead to obliterating the boundary between family and professional life, which, as a consequence, may cause professional and private roles to be mixed up (Mazur-Wierzbicka, 2014). The existence and growth of business in the utilitarian character boils down to maintaining, through the proper formation of relationships, the state of balance at the level of organization-environment (Przechodzeń, 2013). Individual instances of balance are essential: functional, material-technical and social (Przychodzeń, 2013). Deliberating on the notion of balance in relation to a family business, one cannot bypass issues connected with work-life balance/family-life balance. Work-life balance is important as the direct influence is exerted by both sides of the process – the owner and family member(s). Bringing work issues home and home issues to work have adverse influence on an employee's/family member's health (Kalliath & Brough, 2008). Pressure, demands and long hours spent at work, exhaustion (working in the evenings and at weekends) lead to less “quality” time spent with family (Guest, 2002). The balance between work and family is defined as the degree of commitment to (satisfaction with) the role fulfilled at work and in the family. Kalliath and Brough propose three elements of balance: time, engagement, and satisfaction. A similar definition of work-life balance is presented by Kirchmeyer: work-life balance means equal distribution of time, energy, and engagement in various areas of life in a way that makes it possible to draw satisfaction from it (Robak, 2016). The boundary between business and family spheres is marked by satisfaction and functioning well at work and home with the lowest conflict of roles (Kalliath & Brough, 2008). Such a balance means that professional work does not hijack private life and vice versa life outside of work does not go on at the cost of work (Robak, 2016). Seeking the balance between private and professional life refers to exerting influence by employees on the amount of time they devote to professional and family life. Robak points out that this kind of autonomy relates to the quality of life and promotion of sufficient work conditions and standards. As for employers, it means their social responsibility towards employees (Robak, 2016), which in the case of family businesses also directly refers to family members. These are socially responsible activities rooted in the idea of sustainable development. Using good practices in the case of work-life balance should lead to the satisfaction of the engaged parties: employees and the employer (Robak, 2016) – family and the owner.

Work-family balance makes it possible to satisfy fundamental needs for the somatic sphere such as physical and mental health. One should remember about regaining strength through rest, relaxation, rational sleep, keeping fit, and taking holidays (Kolman, 2009). Abiding by the above principles leads to keeping physical and mental health in good condition, which in turn translates into professional and family-related effectiveness.

### **3. The idea of sustainable development in the context of family enterprise**

According to Więcek-Janka, a family business has a trigonal structure combining the interests of three groups, operating with the values of family members' business, family and individual spheres (Więcek-Janka, 2014a). It is not easy for these groups to work in the state of balance – one group's interests may prevail over the needs of others' (Więcek-Janka, 2014). The growth of a family business creates added value which is developed not only by particular family members but by generations of families shaping the lasting existence of the business. Undoubtedly, the criteria of sustainable development may help to realize the intentions related to the future existence of a family business. Moreover, sustainable development means equal opportunities for the present and future generations (Roosa, 2008). The principle of sustainable development comes down to the integration of three systems: economic, ecological, and social. In a family enterprise, this is complemented by another one - the business-family system. The common aim of sustainable society is to maximize aims from all systems covered in the process of exchange (Larson, 2007). What is worth noting here is the essential character of managing diversity – the equality of females and males, which is connected with social inclusion, that is ensuring participation in specific undertakings and equal chances of growth (Kłos, 2013; Więcek-Janka, 2014b).

The idea of sustainable development was also taken up by Blikle<sup>5</sup> who claimed that profit “is not the aim, profit must be optimized, and harmony between all costs must be sought – the aim is lasting existence” (Lewandowska & Hadryś-Nowak, 2012). Szczepanowska (2013) points to finding the balance between tradition and innovation. The results of her research show that too little focus on innovation makes family businesses “unable to survive the succession process” and next generations become “caregivers” rather than innovators, thus impeding the growth of business.

One of the ways to express the idea of sustainable development in the social aspect is to introduce the concept of Corporate Social Responsibility (CSR) – social business responsibility made up of a range of measures protecting and strengthening societies in which they function (Matejun,

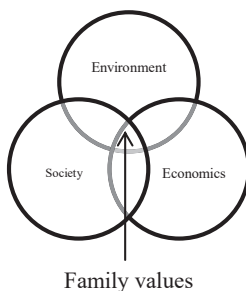
<sup>5</sup> Owner of one of the oldest Polish family businesses run in the fifth generation.

2011). There are a lot of CSR definitions which relate to several dimensions: stakeholders', economics', environment's, social and voluntary (Dahlsrud, 2006). According to Dahlsrud, CSR definitions describe the phenomenon, but they lack any guidelines related to management within this concept (Dahlsrud, 2006). Carroll explains that it is important to define the kinds of responsibilities and to manage a business, which will establish a framework for understanding the developmental character of business in economic, social, legal, ethical, and benevolent aspects. A firm should be obliged to obey rules, be ethical and be a good citizen (Carroll, 1991). The CSR concept in this context may be successfully introduced both in the family and its economic activity, creating added value thanks to the synergy effect. Porter and Kramer (2011) in their concept of creating shared value (CSV) indicated the need for combining a firm's success with social development. Shared value (of business and community) is a new way to attain economic success (Porter, & Kramer, 2011).

Businesses, through creating economic value, simultaneously create social value. There are three different ways of doing so: transforming products and markets, redefining productivity in the chain of values, and creating local clusters. Each of the above-listed aims is part of creating shared value. Improvement in value in one place causes a possible improvement in the other ones (Porter, & Kramer, 2011). The consequence of Porter's and Kramer's postulate (redefining a pro-value paradigm and the concept of managing value) is the redefinition of the basic aim of business – creating shared value.

As a result, the evolution of value based management towards sustainable value based management takes place. It comes down to fulfilling a few concepts: value based management, social concept, responsibility, and sustainable development (Jaki, 2016; Lewandowska & Więcek-Janka, 2016).

The influence of family values on the implementation of the sustainable development strategy is presented in Figure 1.



**Figure 1.** Influence of family values on the strategy of a business's sustainable development

**Source:** Lewandowska & Hadryś-Nowak (2012, p. 409).

Maximizing added value is connected with finding a business social acceptance for its activity. The problem concerns adopting a way of an enterprise's functioning by a firm's social external environment and its internal environment, that is its employees. It is linked with satisfying the expectations and aspirations of both groups of stakeholders (Przychodzeń, 2013). Family can be viewed as an internal stakeholder (Mazur-Wierzbicka, 2014). Matejun points to a wider context of considering family as a stakeholder (2011). Family is the supporter of an organization which converges in itself the interests of shareholders and owners, managers and employees (family members), clients (recipients of products or services – family members) and the local community – relationship with the environment (Matejun, 2011). The forms of family businesses' social responsibility are favorable for achieving social and economic aims through, among others, providing society with goods and services adequate to needs and supporting the social and economic development with the idea of green thinking and acting (Matejun, 2011). Benefits arising from the implementation of the CSR concept concern both an enterprise itself and family members. Family businesses can be looked at through the lens of the resource based view and can be regarded as such when material and human resources relate to the family of owners and fulfill the following assumptions: (1) an enterprise is used to achieve family's aims, (2) family must be able to influence the growth of a business, (3) it must exert this influence, (4) shareholders must be members of the family" (Więcek-Janka, 2013). Mazur-Wierzbicka (2014) focuses on a firm's internal resources which become a significant source of a family business's competitive edge. These are, principally, human resources along with the factors of familiness, which include: family's engagement in running a business, organizational culture, trust and respect (Mazur-Wierzbicka, 2014).

Family affects business through furnishing essential resources indispensable for the functioning of (1) financial resources (financing an entire undertaking from the very beginning), (2) human resources (an enterprise's employees), (3) thoughts, ideas (4) participating in decision-making processes (Mazur-Wierzbicka, 2014).

#### **4. Research methodology**

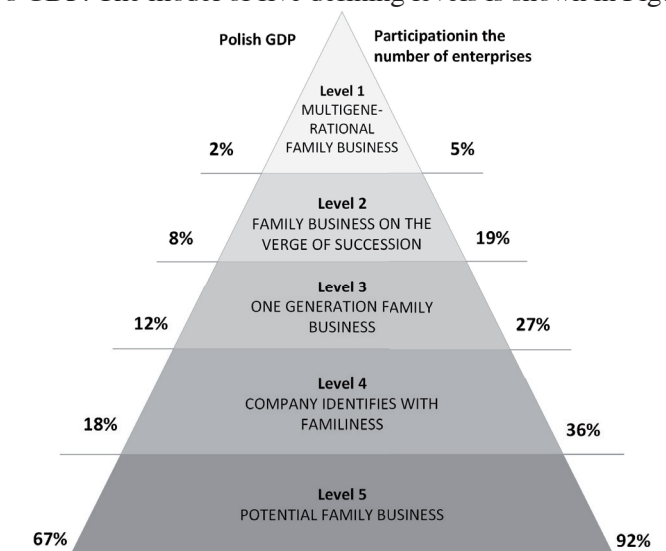
As it is shown in research done by a number of scholars (Jeżak, 2014; Sułkowski & Marjański, 2009; Safin 2007) and economic institutions, both Polish (PARP, KPMG, IBR)<sup>6</sup> and European (European Commission), designing research for family businesses is connected with the lack of a clear-cut definition of a

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6 PARP – Polish Agency for Enterprise Development; KPMG International – one of the largest businesses in the world providing professional services; IBR – Institute of Family Business.

family business. Such a state of matters significantly impedes the replicability and comparability of research results. In 2016, researchers Więcek-Janka and Lewandowska (2016) proposed a new approach to defining family businesses. The model of five defining levels developed by them was put to thorough verification (Więcek-Janka & Lewandowska, 2017) on a sample of 2,291 family businesses and the results allowed to determine the share of (1) family businesses in general population, (2) in Poland's GDP. As it is shown in figure 1, the largest group of 92% is made up of potentially family businesses, and this group has a share of 67% in GDP. Another group with the share of 36% is made up of businesses with family identity whose share in GDP stands at the level of 18%. Single-generation family businesses' share in population stands at 27% and 8% in GDP respectively. The most critically demanding definitions are the ones that view family businesses as those that fulfill all the above postulates and require the performance of at least one intergenerational transfer.

This group constitutes 5% share in the number of enterprises and 2% share in Poland's GDP. The model of five defining levels is shown in Figure 2.



**Figure 2.** Model of five defining levels of a family business

Source: Więcek-Janka, Lewandowska (2017, p. 174).

The methodology of the study was developed on the basis of the model of five defining levels. The aim of the study was to diagnose the degree to which the principles of sustainable development (extended with the sphere of

business-family) in family businesses are followed. The analyzed population was made up of family businesses in Poland. Their number, in accordance with the fourth level of the model (cf. fig. 2), was around 830, 000 i.e. 36% of the population of businesses. Moreover, an assumption was made that the analyzed subject should be viewed as an exploratory one. The size of the sample was 151 family businesses, which did not secure the minimum number. The research method used was an internet survey with open-ended and closed-ended questions. The study allowed to obtain declarative data<sup>7</sup>. The respondents declared on the percentage scale the level at which they implement the principles listed in the questionnaire. Means for each principle were established (excluding minimum and maximum), and the results are presented in graphic form (cf. fig. 3). Due to a low number of respondents, the results of the study should be treated as pilot results and need to be developed.

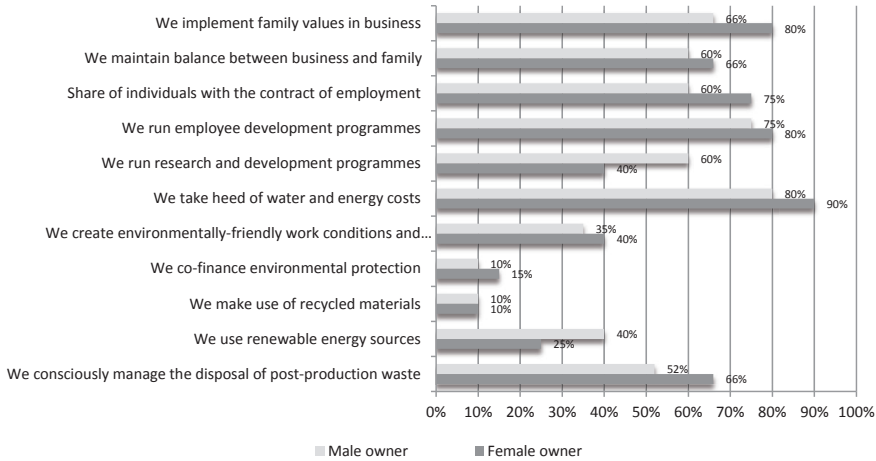
## 5. Results

The study shows high awareness of sustainable development aspects among Polish family businesses. However, two low-evaluated aspects deserve special attention (1) connected with co-financing measures related to environmental protection and (2) connected with making use of recycled materials. For the majority of family businesses, both of these aspects are identified as particularly expensive, requiring a more intense, than previously, commitment to reviewing the business mission statement. Hence, they are not implemented even in a low degree. What is interesting, from the cognitive point of view, is the differences in declarations with owners' gender. Although female managing directors constituted almost 30%, it is easy to note that they set greater store by the majority of sustainable development aspects. Such a distribution of results among females is undoubtedly linked to their special role in the area of family business operation. Adopting the roles of mother, wife, daughter, boss, colleague, etc. and assuming the responsibility that corresponds to these roles causes them, while aspiring after internal harmony, to seek solutions that allow to uphold this balance and realize their vision of business and family development. Two of the singled-out aspects were evaluated by males at a higher level. On average, male owners twice as often use (or are going to use) renewable energy sources and they more often finance H&R activities. Such a level of declarations in the analyzed sample points to males' greater ability to take the risk and introduce innovations.

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<sup>7</sup> 0% - we do not implement at all... 50% we partly implement ... 100% we fully implemented.





**Figure 3.** Results of family business owners' declarations relating to behavior connected with sustainable development (n=151)

## 6. Conclusions

Family enterprises that fulfill their mission pay attention to family security, family values as well as family members' development and self-actualization. Achieving such aims is possible after accepting both a firm's and family's aspirations. It happens that the vision of business and family growth, their aims and implementation measures are in conflict with one another, which leads to the disruption of relationships, impaired communication, dissolution of a business or even disintegration of the family. The authors' aim was to diagnose the scope in which the postulates of sustainable development are realized in family businesses, bearing in mind owners' gender. Despite a relatively low sample, the qualitative character of the study allows to perceive differences in family business owners' declarations as far as gender is concerned. The data show some behavioral patterns to be in compliance with the principles of sustainable development regardless of gender, e.g. making use of recycled materials, financing eco-friendly solutions, taking care of employees' development and observing health and safety rules at work. The differences that emerged (cf. fig. 3) are contained in table 1 and show prevalent answers (featuring differences of above 5%).

**Table 1.** Differences identified in the implementation of sustainable development postulates among family business male and female owners

Female owners	Male owners
Transfer family values into business	Conduct research and development activity
Introduce balance between business and family	Make use of renewable energy sources
Offer a contract of employment	
Manage energy generation costs	
Effect a conscious disposal of waste	

The authors set out in the follow-up research to perform a more in-depth analysis, conduct a quantitative study of the areas of differences between male and female owners of family businesses and diagnose the causes of low assessment for the designated areas of sustainable development.

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# ASSESSMENT OF SATISFACTION AND LOYALTY OF MASS EVENT PARTICIPANTS AS EXEMPLIFIED BY XXIII RZESZOW JUWENALIA

**Joanna Woźniak<sup>1</sup>**

## **Abstract**

*In the literature of the subject, the issues relevant to customer satisfaction research are raised quite frequently in the context of products or services having a commercial character. However, there is a lack of research within the scope of the quality and innovativeness of mass events. Taking this into consideration, the authoress is going to raise the issues of customer loyalty to a specific product which is constituted by Rzeszow Juwenalia. The objective of this publication was to determine the degree of loyalty of participants in the event. Striving to attain the adopted objective, and to verify the formulated hypothesis, in February 2017, a survey research, made accessible in the Google form, was conducted. The respondents were requested to provide their responses to the following question: ‘How high is the probability of you recommending Rzeszow Juwenalia to your acquaintances?’ The question was formulated upon the basis of eleven-point scale, on which using the digit ‘0’ means: ‘Without any doubt, I will not recommend the event,, whereas using the digit ‘10’ means: ‘I will recommend the event without any doubt.’ The questionnaire contained respondent’s as well. In that section, respondents were requested to provide the information about their gender. For the analysis of data, the STATISTICA 12 program was applied. In the statistical analysis, it was principally tables of numerosness, with the application of which the numerical collation, as well as the per cent one, of appropriate responses, were presented. To attain the verified hypothesis, the ANOVA Kruskal-Wallis test by ranks was applied. The obtained results also made it possible to verify the adopted research hypothesis, and to ascertained that there is, most likely, not existing correlation between gender and inclination for the part of the participants in Rzeszow Juwenalia towards promoting the event amongst their acquaintances. Both women, and men alike, assess the organization of Rzeszow Juwenalia similarly and express willingness to advertise this event amongst their acquaintances.*

**Keywords:** *customer, loyalty, mass event, NPS, service.*

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## 1. Introduction

Achieving the maximum customer satisfaction is becoming the fundamental task of organizations striving to develop, and to improve their position on the market. The reason is that a customer is the central subject of the interest of all manufacturing enterprises, and also service-providing business organizations (Zimon, 2016). The companies know that it is the condition of achieving success to direct their attention to customers, regularly monitoring their needs and expectations, and quickly reacting to their needs (Chen, Reilly & Lynn, 2012). Information relevant to the behaviors of consumers and the factors which determine these behaviors are the foundation for determining corporate sales policies, and the starting point for developing the optimum quality of services (Kim, Kim & Jang, 2011). They are, as well, the source of inspirations, and they make it possible to verify marketing decisions made at every single stage of developing a market offer (Bowen & Chen, 2001).

Research into the attitudes of consumers aims at determining how to exert the most effective influence on the behaviors of purchasers. Manufacturers and services-providers look for the response to the following question: what ought to be done to make their product recognizable and demanded? They wonder how to encourage customers to purchase offered products, and how to exert influence upon their attitudes. Entrepreneurs are aware of the fact that the effectiveness of marketing activities is dependent, more than anything else, on the precise identification of the customers' needs, and adjusting their financial offer more skillfully (Chiou, Droge & Hanvanich, 2002). For that very reason, companies are devoting, even more, time to the search for information about customers, and also conducting numerous research within this scope (Santouridis & Veraki, 2017).

It is worth emphasizing that the behaviors of consumers, and also the decisions relevant to their purchases, are exerted influence upon a number of factors both of internal and external kind alike. Amongst the most important are the following factors: personal-demographical, psychological, economic, marketing, and social-cultural.

An important issue, which ought to be taken into consideration in the course of conducting research, is differentiating between the notion of customer loyalty and that of customer satisfaction. Following the opinion of the authoress, customer loyalty is a notion broader than that of satisfaction. The former one means not only the inclination for the part of a customer towards making a purchase in the same company one more time but also to promote its brand in the customer's environment.

As for the sector of services is concerned, it is possible to formulate a non-ambiguous conclusion that customer content is built upon the basis of two



essential aspects – technical quality, and functional quality. A major feature of technical quality is a particular kind of a static character. That includes all those elements of a service which a consumer may assess before a service even starts to be provided. Functional quality, in turn, determines the manner of performing services with the application of the factors defined within the frameworks of technical quality. A major feature of this kind of quality is its dynamic character.

Considering a consumer that consciously looks only for a certain product, or services, a major feature of which is appropriate parameters that the consumer determined in advance. It is possible to assume that it is no one else, but a customer that decides if, and within what scope, a given services or tangible assets fulfill their requirements and needs (Ahrholdt, Gudergan & Ringle, 2017). As a result, a consumer assumes the role of a judge in terms of assessing the quality of a given product or service, not only while making a purchase but also while using them. To put it differently, the assessment made by a customer is the ultimate standards of the quality of services or material assets. At this point, it ought to mention that the standards of quality, constituting the foundation for a quality management system, are comparatively difficult to be determined because a customer expects that products or services will be tailored to their expectations in mind (Zimon, 2017). The principal factor determining conditioning the level of the quality of services is, in our times, both a service-provider (together with their expertise, and their abilities), and also a customer (acting in the role of the arbitrator in terms of the service being offered) alike (Jung & Yoo, 2017).

Without any doubt, it can be ascertained that every enterprise is dependent upon its customers.

In addition, it is no one else but a customer that plays a decisive role in its ‘to be or not to be’ on the market, that assumes the role of a peculiar ‘judge of quality’ of the products or services offered by the organization (Chanavat & Bodet, 2014). It is the intention of every organization seriously considering achieving a competitive advantage ought to do constant research into the content of a customer and subordinating all the processes occurring in the structure of a company to the requirements relevant to providing customer service. Furthermore, every organization ought to be aware of the current and the future needs of their customers, be capable of predicting and meeting them halfway. Because of this, is that kind of actions that are the key to developing a permanent success of every organization and their undertaking (Mandhachitara & Poolthong, 2011).

In the literature of the subject, the issues of research into customer satisfaction is quite frequently raised in the context of products or services of a commercial character, and there is research dedicated to the quality and innovativeness of mass events (Yoshida, James, & Cronin, 2013; Zimon, 2017). Considering this publication, the authoress raises the issues of customer loyalty

making a reference to quite a specific product, which is constituted by Rzeszow Juwenalia. It is worth emphasizing that the process of organizing mass events is very complex and time-consuming. Conducting this process correctly requires a comprehensive acquaintanceship with the tastes and expectations of customers, flexibility, and ability to react to arising difficulties in the course of an event (Yürük, Akyol & Şimşek, 2017). Also, organizers ought to be making all the efforts possible to raise the standards of quality of offered services, and also conduct continuous measurement of customer satisfaction (LoBuono, de Sevilha Gosling, Gonçalves & Medeiros, 2016) both before the event, and after it has taken place.

## **2. Objective of the dissertation, formulated hypothesis and course of research process**

Rzeszow Juwenalia is considered to be one of the largest free-entry students events organized in Poland. For the organizers, the largest logistics undertaking is constituted by the Great Concert Final, which is an annual event organized on the campus of the Ignacy Łukasiewicz Memorial Rzeszow University of Technology. The three days of concerts, intertwined with competitions, and with numerous attractions, make (on average) more than 25 thousand of participants stay on the venue of the event every single day.

Rzeszow Juwenalia, similarly to any other mass event, requires an appropriate promotion.

The marketing activity of the organizers includes: conducting a web site of the event, profiles on social portals, and also advertising in the public space, on television, on the radio or the press. As it is commonly known, one of the ways of acquiring information is, using what one can hear on the grapevine. A lot of individuals making decisions relevant to participation in the event having beforehand contacted their acquaintances.

In connection with the above, the principal objective of this dissertation is to determine the loyalty of participants in XXIII Rzeszow Juwenalia with the application of the NPS indicator.

In the publication, it was attempted to verify the following research hypothesis: it is assumed that gender does not exert influence upon the inclination of participants in XXIII Rzeszow Juwenalia towards promoting the event amongst their acquaintances.

Striving to attain the adopted objective, and also to verify the formulated hypothesis, in February 2017, conducted a survey research made accessible in the Google form. The respondents were requested to provide their answers to the following question: 'How high is the probability of you recommending Rzeszow Juwenalia to your acquaintances?' The question was formulated upon

the basis of eleven-point scale, on which using the digit '0' means: 'I will not recommend the event without any doubt,' whereas using the digit '10' means: 'I will recommend the event without any doubt. The questionnaire contained respondents as well. In that section, respondents were requested to provide the information about their gender.

For the analysis of data, the STATISTICA 12 program was applied. In the statistical analysis, it was principally tables of numerosness, with the application of which the numerical collation, as well as the per cent one, of responses, were presented. To attain the verified hypothesis, the ANOVA Kruskal-Wallis test by ranks was applied. The processed results were presented in the graphical form.

In accordance with the authoress's opinion, the result of research may be an advantage in practice and will be constituting a valuable source of information for the organizers of Rzeszow Juwenalia.

### **3. Description of the applied method of research (NPS)**

One of the methods of researching customer satisfaction and customer loyalty, which is becoming more popular nowadays, is the application of the Net Promotor Score. The NPS indicator makes it possible to determine the degree of customer content and customer loyalty of the organization by applying a single question: 'How high is the probability of you recommending the product (organization) to your family/acquaintances?'

A response is marked by respondents in which using the digit '0' means being completely unwilling to recommend the product (organization), whereas the digit '10' means recommending it is quite likely.

Upon the basis of the responses, the respondents may be divided into three principal categories:

- Score: 0-6 – represents so-called brand detractors. These are individuals not satisfied with a product. They may disseminate negative opinions about the organization, and also about the products or services offered by this organization. It ought to be remembered that respondents included into this segment may as well become a valuable source of information, indicating, among others, what aspects ought to be improved by the organization to raise the quality of its activities.
- Score: 7-8 – represents individuals included into the group of passive consumers. In this case, the respondents demonstrate a relevant content with the offer proposed by the organization being researched. Customers included into this segment will most likely go over to the competition when more attractive possibilities appear.

- Score: 9-10 – represents those referred to as brand promoters. These are individuals that use the offer of an organization on a regular basis and are fully satisfied with it. The respondents included into this segment may demonstrate inclinations towards expressing a positive opinion about this organization.

The NPS indicator is defined as the difference between the per cent share of promoters and brand detractors ( $NPS = \% \text{ promoters} - \% \text{ detractors}$ ). The higher the NPS indicator is, the stronger loyalty towards the organization is. It is assumed that the positive result for an organization ought to amount to no less than 50% (Seth *et al.*, 2016).

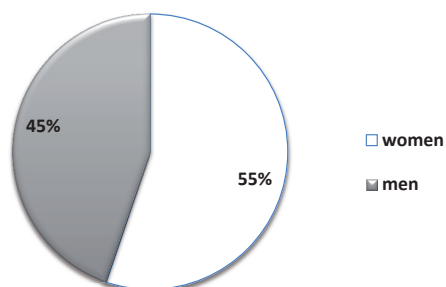
The principal advantage of the NPS method is simplicity in the field of constructing and conducting the research and the analysis of the obtained results. In turn, the shortcoming is the limited quantity of information which may be obtained by a canvasser. The reason for that is that this indicator shows the level of customer content and customer loyalty customers solely. However, it does not make it possible to determine the fields which ought to be improved precisely.

## 4. Presentation of the results of research

### 4.1. Profile of respondents

During the research, 1,876 individuals completed the questionnaire. 354 of the respondents declared that they did not participate in XXIII Rzeszow Juwenalia; therefore, the survey was not continued. The final research sample included 1,520 individuals.

As it was presented in Figure 1, the majority of the members of the studied group are women, the number of whom equals 838, which constitutes 55% of the total number of the surveyed. The questionnaire was also completed by 682 men that constitute 45% of all the respondents.



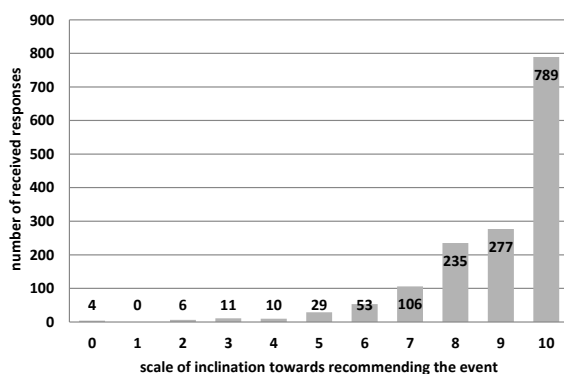
**Figure 1.** Profile of respondents – gender

#### 4.2. Determining the loyalty of participants in XXIII Rzeszow Juwenalia

Table 1, and Figure 2, present the results of the research relevant to the answers to the question. The results of the research indicate that 798 of the surveyed (51.91%) specified that they would without any doubt recommend Rzeszow Juwenalia to their acquaintances. In turn, as few as four individuals (0.26%) would not promote the event in their location.

**Table 1.** Table numerousness for obtained responses

Scale	Number	Accumulated number	Per cent	Accumulated per cent
0	4	4	0.26	0.26
1	0	4	0.00	0.26
2	6	10	0.39	0.66
3	11	21	0.72	1.38
4	10	31	0.66	2.04
5	29	60	1.91	3.95
6	53	113	3.49	7.43
7	106	219	6.97	14.41
8	235	454	15.46	29.87
9	277	731	18.22	48.09
10	789	1,520	51.91	100.00



**Figure 2.** Graphic presentation of the obtained results of research

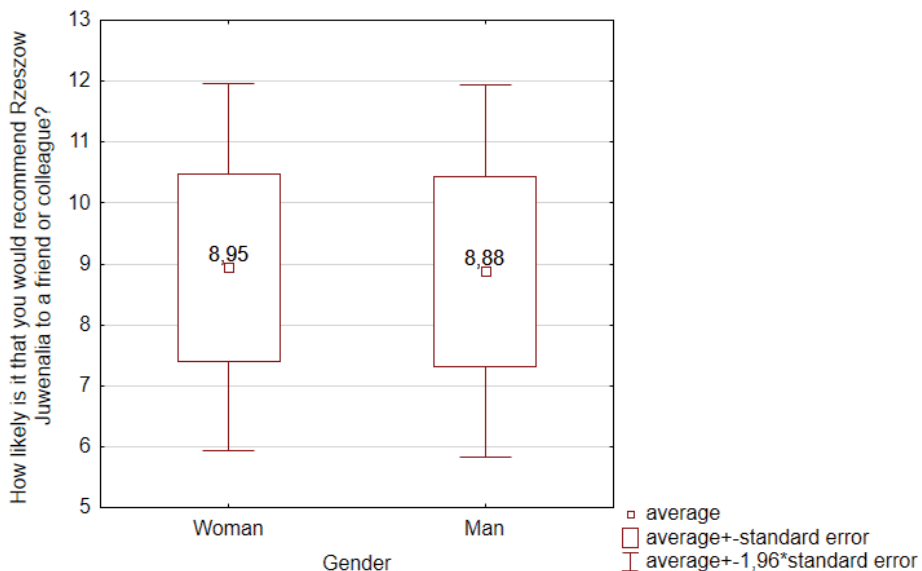
Analyzing the received results in the context of the NPS method, it is possible to formulate the following conclusions:

- the detractors of Rzeszow Juwenalia, who chose a response between 0 and 6, constitute merely as few as 7.43% of all the respondents. Their number amounts to 113 individuals;

- into the group of passive participants, and that means individuals that chose a response between 7 and 8, 341 respondents were included. They constitute 22.44% of the total number of the studied;
- promoters of Rzeszow Juwenalia is the largest group amongst the surveyed – 1,066 individuals. They constitute 70.13% of all the respondents,
- after determining the difference between the per cent share of the promoters (70.13%) and that of the detractors of Rzeszow Juwenalia (7.43%), it is found that the NPS indicator amounts to 62.70%. It is possible to conclude that this is an excellent result. It indicates a high level of satisfaction with participation in last year's event, and willingness to promote the event in one's environment.

### 4.3. Determining correlations between gender and loyalty

It was resolved that in the further part of research it will be checked whether there was a possible influence of gender upon the inclination of participants in Rzeszow Juwenalia towards promoting the event amongst their acquaintances. To attain this objective, the ANOVA Kruskal-Wallis test by ranks was applied.



**Figure 3.** Analysis of the correlation between gender and inclination of participants in Rzeszow Juwenalia towards promoting the event amongst their acquaintances

The described results demonstrate the  $p$  test probability level, and the adopted level of significance = 0.05, making it possible to adopt the null hypothesis. Therefore, the value of ANOVA Kruskal-Wallis test by ranks  $H(1, N = 1,520) = 2.145402$ , and also  $p = 0.1430$ , made it possible to ascertain that there is no correlation between gender and the inclination of participants in Rzeszow Juwenalia towards promoting the event amongst their acquaintances.

In addition, the data contained in Figure 3 make it possible to ascertain that the average obtained results of assessments in particular studied groups differ insignificantly. The average assessment amongst the women amounted to 8.95, and, in turn, amongst men, the averaged result was at the level of 8.88.

## 5. Conclusions

Customer satisfaction, and customer loyalty, are undeniable issues which ought to be constantly monitored by the organizations of all types. The reason for that is that the collected information within this scope is the starting point for developing a product or a service in the acceptable standards of quality (Markey, Rethirheld & Dullweber, 2009; Wolniak, 2013). The issues of the quality of services provided during mass events is certainly a priority because their level determines the frequency, which is a significant criterion for a successful event. Taking that into consideration, attention to this dissertation was focused on the analysis of customer satisfaction with the received service, the expression of which is loyalty. Upon the basis of conducted research, it was established that a clear majority of participants in Rzeszow Juwenalia was satisfied with the organization of the event. In addition to that, 70.13 % of them promote this event in their environment.

The results of the research made it possible to verify the adopted research hypothesis, and to learn that, most likely, there is no real correlation between gender and inclination of participants in Rzeszow Juwenalia to promote the event amongst their acquaintances.

Both women and men alike assess the organization of Rzeszow Juwenalia and similarly express willingness to advertise this event amongst their acquaintances.

In addition, the obtained results ought to be a valuable piece of advice for the organizers of the future events, and they will make it possible to make the optimum choice of events exerting influence upon the increase in the attractiveness of the event.

To summarize, attention ought to be paid to the highest standards of customer service. Mass events participants change their tastes and requirements under the influence of earlier participation in the event. Due to these circumstances, the organizers ought to annually analyze their offer,

make changes, take actions, and perfecting it in accordance with new trends. This way, they will raise the quality of the project, which will also contribute to increasing the satisfaction of participants, and the prestige of the event.

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**IV.**  
**BUSINESS AND NON-PROFIT**  
**ORGANIZATIONS - SECTORAL AND**  
**INDUSTRIAL ASPECTS**



# KNOWLEDGE – INTENSIVE BUSINESS SERVICES – CHARACTERISTICS, SCOPE, AND SECTORAL APPROACH

Joanna Bohatkiewicz<sup>1</sup>, Marta Gancarczyk<sup>2</sup>, and Ivano Dileo<sup>3</sup>

## Abstract

*This article is focused on knowledge-intensive business services (KIBS). The article aims to present specificity of knowledge-intensive business services, their industry characteristics and to assess the compliance of the industry classifications with the definition proposed, taking into account performing a scientific research. The available definitions of these services were reviewed, classification of these definitions was made, and a definition of KIBS was proposed as a synthesis of the approaches previously analyzed. The proposed understanding of KIBS aims at delimiting this economic phenomenon against other services and emphasizes its specific features. The article also presents the classification of KIBS companies in the sectoral approach (NACE Rev 2, Polish Classification of Activities – PKD), defining their compliance with the proposed definition and specificity of the research focus. The study is conceptual, based on scientific literature review. As a result of the analysis, a proposal for a comprehensive definition of the discussed issue was developed, systematization of the scope KIBS and comparison of previous sectoral approaches were performed.*

**Keywords:** *knowledge-intensive services, knowledge-intensive business services, KIBS, KIS, high technology, sectoral classification, innovation, R&D, GVC, global value chains.*

## 1. Introduction

Knowledge-intensive business services take an important role as a research issue due to the growing role of knowledge-based economies, technological competitiveness, increasing specialization, use of such organizational forms

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as outsourcing or modular approach in the manufacturing process<sup>4</sup>, as well as the pursuit to reach high added value, which requires advanced knowledge often acquired through cooperation.

The condition for the development of the knowledge-intensive services sector, in particular the knowledge-intensive business services sector, is the specialization of production in particular industries, driven by increasing technological competition, also on the world markets. The development of information and communication technologies as well as progress in transport infrastructure can be presented as factors favoring specialization, which enable to cooperate with specialized suppliers. These factors serve the international mobility of highly qualified human resources – Saxenian (2007) calls it *brain circulation*. As Muller & Zenker (2001) point out, not only does the business environment support the development of KIBS but also the knowledge-intensive services sector itself influences its surroundings, contributing to the development of a knowledge-based economy dependent on competence, creative capabilities, and intangible resources.

Research on knowledge-intensive services and the conceptualization of this phenomenon are still in the development phase, resulting in a variety of applied definitions and related concepts. Therefore, one can distinguish the so-called Knowledge-Intensive Services (KIS). Literature also uses the term knowledge-intensive business services (KIBS), and, less frequently, Technology-Based Knowledge-Intensive Business Services (TB-KIBS) or Technology Knowledge-Intensive Business Services (T-KIBS). Studies on knowledge-intensive services often refer to the concept of high technology. The cited references to knowledge-intensive services are closely related to each other, and thus treated synonymously and used interchangeably in the literature. However, there are differences in their content and scope. In the literature, no systematization of these concepts has been made so far, which results in unclear definitions and methodological clarifications. There is also no discussion that would imply this systematization with the sectoral classification of knowledge-intensive business services, thus leading to the establishment of the boundaries and significance of the phenomenon.

Such an integrated approach should be considered as justified by the current state of research, and at the same time indispensable for proposing a definition for further theoretical and empirical research.

The purpose of this article is to present the essence and specificity of knowledge-intensive business services and their industry characteristics as well as to define the coherence between the essence and the classifications of KIBS taking into account requirements of scientific research. The study is

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<sup>4</sup> Commercialization is a term used rather to refer to the transformation of inventions and ideas into market products or services.

conceptual and based on a literature review of this subject. As a result of the analysis, a new definition of KIBS was proposed, terminology related to this phenomenon was organized, and its sectoral classifications were compared.

The second section of the paper reviews the available definitions of the knowledge-intensive business services, classifies those definitions and systematizes the terms related to KIBS. Next, the definition of knowledge-intensive business services was proposed as a synthesis of the approaches previously analyzed. The third part presents economic indicators that help to define KIBS. The fourth section describes the sectoral classification of KIBS (NACE, PKD), determining their compatibility with the proposed definition and specificity of the scope of research. The paper presents, in summary, the contribution of the article to the current research on KIBS and outlines the directions for further analysis.

## 2. Definitions and characteristics of KIBS

As pointed out, while considering the problem of defining knowledge-intensive business services (KIBS), one shall note that this phenomenon is presented in the literature by a broad spectrum of terms of similar importance. There has not been any synthetic and unambiguous distinction between them. They are used in the literature in a convertible manner.

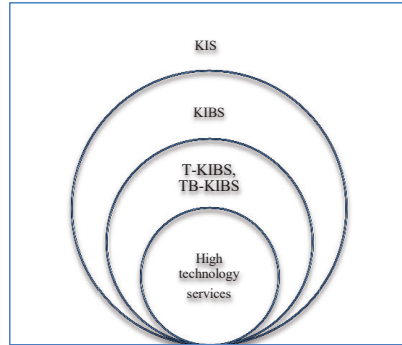
The concept of knowledge-intensive services (KIS) should be considered as the most meaningful and referring to all knowledge-based services (or all knowledge-intensive services). In this category are not only profit-oriented organizations but also non-government organizations (NGOs) or sole proprietorships aimed at corporate clients, as well as other entities that do not operate commercially.

However, the scope of KIBS is limited to businesses and profit-oriented businesses whose focus group is other market participants operating commercially (*business-to-business model*, - /B2B/). On the other hand, technology-intensive business services (T-KIBS or TB-KIBS) have the characteristics of KIBS but focus on technical knowledge concerning parameters of product, service, and processes characteristic in specific industries.

The narrowest term is the concept of high technology services, which refers to business of the so-called *high intensity R&D*<sup>5</sup>. The semantics of the terms is shown in Figure 1.

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<sup>5</sup> Eurostat and The Joint Research Center, - /JRC/) defines high technology as an activity whose R&D intensity is greater than 7% (GUS, 2015).



**Figure 1.** Scheme of semantics of terms KIS, KIBS, T-KIBS and TB-KIBS

Determining the meaning of terms of knowledge-intensive services favors the clear definition as well as research methodology. If, for example, research is carried out on knowledge-intensive services, exclusively for commercial entities, focusing solely on KIS as a research trial may lead to a problem of generalizing the results. Knowledge-intensive services are a broader concept and refer to a more numerous and diverse group than KIBS. It is possible that the conclusions of the study, mechanisms or phenomena accompanying KIBS, will not apply to all KISs. A similar problem could be observed when using any term with a broader range of meaning to the research trial which gathers a group of narrower range. At the same time, the use of the term KIS, which has a broad meaning, while analyzing only high technology, KIBS or T-KIBS/TB-KIBS may result in carrying out research which does not take into account the characteristics of its research trial.

The alternative usage of knowledge-intensive services concept is not the only observation of literature review. Literature provides definitions referring almost exclusively to knowledge-intensive services, meaning KIS. There is no definite definition of KIBS, T-KIBS/T-B-KIBS, which would point to the specific characteristics of these activities and which would distinguish them from KIS. In order to define KIBS, an overview of the available definitions in the literature was made. Selected definitions of KIS are presented in Table 1.

**Table 1.** Different definitions of KIS by various authors

No.	Definition of KIS	Author of the definition
1	One of the service activities, which is often innovative and supports the innovation processes in other sectors of the economy, both service, and manufacturing sectors.	(Ciriaci, Montesor & Palma, 2015; Den Hertog, 2000)



No.	Definition of KIS	Author of the definition
2	Services carried out through business activities, the purpose of which is to create, accumulate and disseminate knowledge.	(Miles, Kastrinos, Flanagan, Bilderbeek & Den Hertog, 1995)
3	Expert firms that provide services to other businesses and organizations.	(Matja, 2006)
4	Companies whose core business value creation is gathering, creation, and dissemination of knowledge in order to develop tailor-made services to satisfy their individual needs.	(Bettencourt, Ostrom, Brown & Roundtree, 2002)

**Source:** own study based on (Ciriaci, Montresor & Palma, 2015; Muller & Doloreux, 2009).

As Ciriaci, Montresor & Palma (2015) point out that definitions can be grouped into several categories according to the KIS characteristics they emphasize. The key issues that are present in the analyzed definitions are presented in Table 2.

**Table 2.** Key issues in KIS definitions

Reference points, key aspects	Example of definition (the number corresponds to the ordinal number in Table 1)	Other authors of the definitions
KIS provides their stakeholders with specialized, knowledge-based business services.	2, 3	(Amara et al., 2009; Rodriguez, & Ballesta, 2010; Miles et al., 1995; Bettencourt et al., 2002)
KIS is treated as a specific type of economic sector that plays a major role in promoting innovation and development	1	(Baumol, 2002; Oulton, 2001; Muller & Zenker, 2001; Tether, 2005)
KIS serves not only innovation through the creation of new services, products, or technologies but also serves to spread knowledge to other sectors, particularly those related to manufacturing, and stimulates innovation throughout the whole value chain.	1, 2	(Castellaci, 2008)
KIS providers are organizations based on knowledge in their core business (know what, know why, know how, know who)	2, 4	(Asheim & Coenen, 2005; Asheim, Coenen, Moodysson & Vanjg, 2007)

**Source:** own study based on (Ciriaci, Montresor & Palma, 2015; Pina & Tether, 2015).

As a result of the analysis of different definitions, one can point the main features of KIS specification and distinguish them from other sectors of the economy. These include:

- based on expertise, professional knowledge;
- high entry barriers in these industries, due to limited access to information and highly qualified staff;
- the risk of asymmetry of information - uneven access to information between stakeholders in the same industry;
- high proportion of employees with higher education in the total number of employees;
- innovation in services, process, organization, and marketing innovations.

Miles et al. (1995), in the course of deliberation on knowledge-intensive services, identified three key features:

- are based on professional knowledge;
- are either a source of primary data ready for use by companies and transform into knowledge, or they already use knowledge acquired in the course of their activity to produce intermediate services for their customers<sup>6</sup>;
- are of competitive importance, i.e., they operate in a competitive environment and are themselves competitive with others and moreover, direct their offer to other companies in the first instance.

Among the motivations for acquiring knowledge-intensive services, one should mention the greatest benefit which is access to advanced, professional knowledge. Stakeholders who use such services can count on the highest quality in a given area, as the specialization strategy requires service providers to strive for technological niche domination. This dominance is a way of controlling the risk, which in this case cannot be limited by classical diversification. High-quality knowledge of service providers adds value to the buyer's offerings while reducing the imitation risk from the competition. Moreover, an important aspect motivating recipients of using KIBS is a possibility to learn and use hidden knowledge of such service providers as law firms, accountants, or insurance companies.

Furthermore, the KIBS sector plays a significant role in developing innovative capacity and building a knowledge-based economy at various levels, from the level of a single organization, through the local and regional levels up to the national level (Mako, Polonyi, Szanyi & Ujhelyi, 2013). However, modern business realities pointed out that knowledge-based economy has many subtypes, such as economy based on technical knowledge. Among the typical service providers companies that perform such activities, also other can

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<sup>6</sup> Taking into account the claims presented in Chapters 1 and 2 on the interchangeability of terms of knowledge-intensive services, it is likely that Miles et al. (1995) present here T-KIBS.

be listed: ICT services, research and development, automation and electronics services, technology development consultancy (Zięba, 2013). More generally speaking, engineering offices of all kinds, consulting firms, companies that employ researchers and perform R&D projects can also be involved in this classification. It is difficult to discuss and analyze the typology of service recipients, as this group will be defined as one distinguishing characteristic, i.e., conducting business activity. The service provider - service recipient relationship is, therefore, B2B, with buyers being very often large enterprises or corporations, and service providers being small specialized companies. At the same time, the development of a knowledge-based economy may be related to the upgrading process, i.e., change in the scope of business activity of a company, region or entire economy towards higher added value. It is particularly important for developing economies and peripheral regions whose potential has not yet been fully utilized.

KIBS also influence the development of such organizational forms as outsourcing, networking and virtual organization (Gancarczyk & Gancarczyk, 2011). At the same time, the development of this industry is closely connected with the creation of global value chains. Division of labor and specialization within the classical value chain have led to the development of modular value chains. KIBS are then focused on businesses responsible for individual modules (complex components of a product that perform a specific function), providing specific knowledge.

Due to the lack of clear definition of KIBS as well as the existence of literature concerning definitions of KIS, it is possible to define KIBS. The most important feature distinguishing KIBS from KIS is the commercial nature of the interaction between the stakeholders involved in the process. These relationships are business in nature which means that profitability is one of the key goals for which these organizations have been established and operated. KIBS are characterized by expecting measurable economic effects. They are exposed to high risk of specialization as well as risk related to conducting an innovative activity (e.g., the risk of leaving highly qualified personnel or commercialization of the service itself). The emphasis is laid on the practicality and high utility of the services as well as profitability of the business.

This means that KIBS has to continually analyze its environment, perform continuous organizational learning due to its highly knowledgeable nature, and to conduct so-called “flexible specialization.” Due to the above, KIBS can be defined as follows:

***KIBS is a specialized business, commercial service that creates added value through creation, accumulation, and dissemination of professional***

*knowledge, supports the development of the knowledge-based economy by creating and promoting innovation, as well as stimulates upgrading processes in global value chains.*

This definition contains key elements that define the specificities of KIBS, such as professional knowledge, specialization of business activity, the creation of added value, creation, accumulation and dissemination of knowledge, support for knowledge-based economy development, creation and promotion of innovation, support for the development of upgrading processes in global value chains.

### **3. Economic indicators in the process of defining KIBS**

While defining the concept of KIBS, it is helpful to prove that the term also has measurable attributes. The subject of the analysis is not only the activity described by the appropriate code from the selected sectoral classification but also by appropriately selected indicators. Indicators for the measurement of R&D activity<sup>7</sup> prove to be useful.

It is worth noting that different indicators for manufacturing activity may be used, and others for service activities. As Gancarczyk (2012) points out, for manufacturing activities the technology intensity index, also known as knowledge intensity or R&D intensity, expressed as the share of R&D spending in sales revenue is used. This indicator, though becoming one of the key measures, it has also been criticized. It has been claimed that spending on R&D alone does not determine the companies' achievement of business results and will not necessarily transfer and result in innovation. An aspect of technology spread, including equipment and machinery is a factor that is not considered in the calculation of this indicator. The indicator that was designed to resist this criticism is the expenditure on applied technology. It is also used in the latest classifications (Hatzichronoglou, 1997; Gancarczyk, (2012); Eurostat, 2009; GUS, 2015).

In the case of service activities, the key group of indicators includes size and structure of employment. In some EU funding programs, such as the Eurostars program, it is also useful to determine the average number of R&D projects per year, as well as some posts attributed exclusively to this type of activity. The indicators used are average employment in the year / *headcount*/), full-time equivalents employed - /*FTEs*/) and some full-time equivalents dedicated to R&D. Likewise, Central Statistical Office in Poland (GUS) uses R&D intensity for service activities, taking as a reference point,

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<sup>7</sup> GUS defines R&D as "creative work performed systematically, undertaken to increase knowledge, including knowledge of a human being, culture and society, as well as to find new usage for this knowledge" (GUS, 2015).

total expenditure on R&D personnel as well as full-time equivalents (FTEs) (GUS, 2015)<sup>8</sup>.

In practice, the same economic indicators are usually used to define service activities and production activities. Hybrid solutions, the most demanding from the perspective of labor intensity, are adopted, but at the same time, give the most approximate analysis of R&D potential, and hence the level of knowledge-intensity in business activities. This has been reflected in the GUS's approach, which considers current expenditures on R&D (e.g., costs of materials, nondurable goods and energy, some costs of external services, taxes other than VAT and other R&D expenditures which influence financial result of an organization and insurance costs as well as equivalents to employees in the R&D part), personal expenses (total employment costs, i.e., costs to be incurred by the employer for R&D personnel) and R&D investment expenditures (purchase of fixed assets, based on the Generic Classification of Fixed Assets (GUS, 2015)). The primary limitation of this indicator analysis is that it concentrates only on research and development service providers. If such activity is not taking place (this is not an indispensable factor), then these indicators would indicate a lack of knowledge-based character of an organization. For this reason, it will be crucial to identify universal indicators that will help identify this sector.

#### **4. Sectoral approach: KIBS in national and international business activity classifications**

KIBS are also analyzed by the primacy of the type of business activity, or rather, business activity classified in formal documentation. There are numerous classifications, both at national and international level. Statistical classifications of economic activity can be divided into those that systematize the scope of business activity (e.g., NACE, ISIC, PKD), specificity of manufactured products or services (e.g., CPC, CPA, PKWiU) as well as those which combine these criteria. An illustrative presentation of key classifications is given in Table 3.

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<sup>8</sup> GUS understands R&D personnel as those who spend at least 10% of their working time on R&D activities.

**Table 3.** Applied classifications and nomenclatures in Poland and the world, a system of links between statistical classifications of activities

Range of classification	Classifications of activities	Product Classifications (products + services)	Nomenclatures of products	Classifications of foreign trade
International (UN)	ISIC - International Standard Industrial Classification of All Economic Activities	CPC - Central Product Classification	–	HS - Harmonized System or Harmonized Commodity Description and Coding System
EU	NACE - The Statistical Classification of Economic Activities in the European Community	CPA - The Classification of Products by Activity	PRODCOM List	CN - The Combined Nomenclature
National	PKD - Polish Classification of Activities	PKWiU – Polish Classification of Goods and Services	PRODPOL List	CN - The Combined Nomenclature

**Source:** Retrieved from <http://stat.gov.pl/Klasyfikacje/>, 25.02.2017.

At the international level (in particular the European Union), the classification of activities in which KIBS activity is present the most commonly used is Statistical Classification of Economic Activities in the European Community, NACE Rev. 2, 2008. This classification is an essential element of an *integrated international system of economic classifications*. Objectives of NACE Rev. 2 were a reflection of technological development and other changes taking place in the economy, comparability of statistical data of different economies and, consequently, facilitation of management at European Union level and national level. This classification is based on the UN Statistical Commission (UNSTAT), made by Eurostat and national classifications, for international comparative analyses. Table 4 presents KIBS identified in NACE Rev. 2.

**Table 4. KIBS in NACE Rev. 2**

<b>NACE Rev. 2</b>	<b>Description</b>
72	Computer and related activities
721	Hardware consultancy
722	Software consultancy and supply
723	Data processing
724	Database activities
725	Maintenance and repair of office, accounting, and computing machinery
726	Other computer-related activities
73	Research and development
7310	Research and experimental development in natural sciences and engineering
7320	Research and experimental development in social sciences and humanities
74	Other business activities
741	Legal, accounting, book-keeping, and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings
7411	Legal activities
7412	Accounting, book-keeping, and auditing activities; tax consultancy
7413	Market research and public opinion polling
7414	Business and management consultancy activities
742	Architectural and engineering activities and related technical consultancy
743	Technical testing and analysis
744	Advertising
7484	Other business activities n.e.c.

**Source:** Muller & Doloreux (2009).

The most important in Polish economic practice is the Polish Classification of Activities (PKD). It is applied by the Regulation of the Council of Ministers of 24.12.2007 on the Polish Classification of Activities (PKD) (Dz. U. of 2007 No. 251, pos. 1885 and 2009 no 59, pos. 489). In accordance with paragraph 1, this classification is used “(...) in statistics, records, documentation, and accounting, as well as in official records and information systems of the public administration ...”<sup>9</sup>. PKD consists of 21 sections (defined by the letters A-U),

<sup>9</sup> Regulation of the Council of Ministers of 24.12.2007 on the Polish Classification of Activities (PKD) (Dz. U. of 2007 No. 251, pos. 1885 and 2009 no 59, pos. 489).

99 chapters (numbers 1-99), many classes (defined by the compilation of a number of chapter and additional number, e.g., 41.20), and several hundred subclasses (defined by the additional letter after number of a class, e.g., 41.10.Z). In the course of deliberations, an analysis was made, which of the PKD activities can be classified as KIBS activities. The reference points were KIBS definition (Chapter 2) and KIBS classification according to NACE Rev. 2. After analyzing the structure of the Polish Classification of Activities (PKD), it should be stated that the following groups of KIBS activities can be present in PKD classification (Table 6).

**Table 5.** KIBS in the Polish Classification of Activities 2007

<b>Name of the chapter</b>	<b>No. of the chapter</b>	<b>Heading</b>
J - Information and communication	61	Telecommunication
	62	Computer programming activities, computer consultancy activities and related activities
	63	Information service activities
Financial and insurance activities	64	Financial service activities, except insurance and pension funding
	66	Activities auxiliary to financial services and insurance activities
M - Professional, scientific and technical activities	69	Legal, accounting, bookkeeping, and auditing activities; tax consultancy
	70	Activities of head offices; management consultancy activities
	71	Architectural and engineering activities; technical testing and analysis
	72	Scientific research and development
	74	Other professional, scientific, and technical activities
	75	Veterinary activities
P - Education	85	Education

Excluding official classifications, scientific literature presents as KIBS also sectors such as information technology, telecommunications, data processing, as well as business environment sectors such as insurance, financial and economic advisory services (Muller E., Doloreux D., 2009). From the point of view of the KIBS's definitions proposed in this article, it can be observed that both Nace Rev. 2 classification and PKD classification are the right starting point for further analyses of this sector. At the same time, there is consistency between these classifications. Both refer to high-technology industries and have a strong potential for specialization.



It should be mentioned that the scope of KIBS's business activity includes a broad spectrum of activities. Categorization can be made through the indicators mentioned above and sectoral classifications. Examples of such activities are, e.g., development of mobile applications or software, database management, preparation of financial engineering investment programs, development of scientific and technical expertise focused on a specific aspect such as linear infrastructure, marketing research, and preparation of marketing strategies, professional, economic, legal and financial consulting.

It is worth emphasizing, however, that adopting a qualitative approach to describing KIBS, i.e., approach based on a specific sectoral classification, carries certain limitations at the same time. According to Pina K. and Tether B. S. (2015), research carried out on 591 companies showed that only 66% of companies, initially classified as KIBS on the base of the UK industry classification, met the criteria of performing a specific business activity. Other enterprises, although formally classified as belonging to the knowledge-intensive business sector, based on a particular classification, carried out other tasks which did not belong to KIBS specifics. It must, therefore, be stated that KIBS identification based solely on industry classification carries a significant risk of error or inaccuracy. Following this, analyses of KIBS based on such classifications may lead to misleading conclusions. It is, therefore, necessary to isolate and examine KIBS using additional variables that would reflect their specificity (e.g., by applying the criteria contained in the definition of KIBS proposed in Chapter 2), using universal indicators and not only based on R&D.

## **5. Concluding remarks**

The purpose of this article was to present the essence and specificity of knowledge-intensive business services and their industry characteristics. As well as, to define the coherence between the essence and the classifications of KIBS considering requirements of scientific research.

A review of the available definitions of knowledge-intensive services was conducted, the classification of these definitions and the systematization of terms related to KIBS were made. Economic indicators were presented to help to define KIBS. As a result of the analysis, a new definition of KIBS was proposed, a range of terms related to this phenomenon was described, classification of business activities of KIBS companies from the sectoral perspective (NACE, PKD) was also presented. Moreover, their compliance with the proposed definition and specificity of the subject of research was discussed. The contribution of the article to the current research on KIBS and directions for further analyses were presented.

KIBS in the literature is analyzed by a large group of researchers. As it is emphasized by Pina & Tether (2015), we can talk about an influence of economic geographers (Gillsepie & Green, 1987; Daniels & Moulaert, 1991; Wood, 2002; 2009; Doloreaux et al., 2010), innovation and management studies researchers (Bessant & Ruch, 1995; Miles et al. 1995; Howells, 2006; Tether & Tajar, 2008; Muller & Doloreux, 2009; Love et al., 2011), and international institutions (European Commission, 2009; United Nations, 2011; BIS, 2012; OECD, 2012; Schricke et al. 2012). There is considerable interest in organizational innovations in the literature on knowledge-based services, which may be the result of technological development, as well as the combination of technology and so-called soft skills (Sirilli & Evangelista, 1998; Larsen, 2001).

The issue of KIBS is also considered by the aspect of economic policy. Defining, identifying KIBS as well as analyzing the spatial distribution of this highly knowledge-intensive business activity is discussed in the creation of regional policies, including regional development, building local or regional development guidance documents. It can also serve to compensate for differences between specific geographical areas with different levels of development. In this context, KIBS may also be present in the concept of intelligent specializations. This concept, as pointed out by Pander, Rauzer, Stawicki, Sycz and Wojnicka-Sycz (2014) and Okon-Horodyńska (2012), is based on the statement that regions with a high scientific level should base on sustainable support of core technologies (i.e., specialized ones), and regions with lower levels of development should strive for specialization so that they can use these technologies. Accordingly, program documents may indicate the means and tools of KIBS' support in order to implement the concept of intelligent specialization.

The further study may also include a comparative analysis of the applied classifications of KIBS activities in Poland and the world, identification of their strengths and weaknesses.

As well as the possible proposal of a new classification, which quantitatively and qualitatively will be a good reference point for identifying a specific activity as KIBS. It is also important to identify universal indicators that will help identify activities within the business sector of knowledge-intensive business services, regardless of being an R&D company or not.

The KIBS issue is also analyzed in the context of global value chains (GVC). Organizations with lower added-value activities in less developed countries may evolve in the long run to the organizations with higher added value in the global value chains, leading to the so-called upgrading. There is a systematic need for professional services (e.g., KIBS) to find highly qualified human resources with simultaneous cost preferences. This also means that

high-value businesses are also located in developed or developing countries (Gancarczyk 2015, Lam, 2007, Saxenian, 2007; Lee and Saxenian, 2008; Mudambi, 2008; Malecki, 2010; MacKinnon, 2012.).

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# THE PROTECTION OF PATIENTS' PERSONAL DATA IN HEALTHCARE ENTITIES – THE ROLE OF INSTITUTIONS

**Wojciech Krówczyński<sup>1</sup> and Marta Gancarczyk<sup>2</sup>**

## **Abstract**

*The aim of the paper is to present the essence and impact of formal institutions on the efficiency of economic activity in the light of new institutional economics. Also, to identify the impact of the Regulation of the European Parliament and the Council of the European Union in the area of personal data protection on the efficiency of managing sensitive data in healthcare entities. Healthcare entities process personal data of particular importance, namely data regarding patients' health. The development of information technologies stimulates the emergence of new information channels, but at the same time, it raises a number of threats of misusing this information that has not been known so far. The new Regulation of the European Parliament and the Council of the European Union of April 27, 2016, seeks to increase the safety of sensitive information concerning patients. In the paper, the impact of this regulation and some related laws on managing patients' data were analyzed. Moreover, the positive outcomes and some limitations of these institutional solutions were identified. The analysis and diagnosis of the impact of these formal institutions follow the assumptions of new institutional economics (NIE), with a special emphasis on the impact of the analyzed regulation on the level of transaction costs. The paper was based on the literature on the subject of NIE and personal data processing and protection.*

**Keywords:** *patient, personal data, healthcare, institutions.*

## **1. Introduction**

Healthcare entities process data of particular importance, concerning their patients' health. The development of information technologies leads to the emergence of new information channels, which brings many unknown threats

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related to their misuse. The new Regulation of the European Parliament and the Council of the European Union of April 27, 2016, on personal data protection and the accompanying Directive<sup>3</sup> aim at improving the safety of information on patients' health, the so-called "sensitive data." The article analyzes the influence of the regulation mentioned above on managing patients' data in healthcare entities, indicating positive effects as well as limitations brought by these institutional solutions. The analysis and diagnosis of the impact exerted by formal institutions in this field were subordinated to the assumptions of new institutional economics, with a special emphasis on the impact of the analyzed regulation on the level of transaction costs. The article is based on the analysis of the subject literature and secondary sources on processing and protecting personal data in healthcare entities.

The paper aims at presenting the nature and influence of formal institutions on the efficiency of economic activity in the light of new institutional economics. Similarly, to determine the impact of the Regulation of the European Parliament and of the Council of the European Union<sup>4</sup> concerning personal data protection on the efficiency of managing sensitive data in healthcare entities<sup>5</sup>.

The article consists of five points. The second point presents the essence and assumptions of new institutional economics (NIE) and the role and functions performed by institutions in limiting transaction costs. The third point described personal data protection as an area of economic activity conducted by healthcare entities, governed by the rules of efficiency and regulated by extended formal institutions.

Point four analyzes the impact of the Regulation of the European Parliament and the Council of the European Union of April 27, 2016, on the protection of personal data on the efficiency of economic activities conducted by healthcare entities with regard to transaction costs. Finally, the summary offers conclusions and proposals for further studies.

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3 The Directive of the European Parliament and of the Council (EU) 2016/680 of 27th April 2016 on the protection of natural persons with regard to the processing of personal data by competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and on the free movement of such data, and repealing Council Framework Decision 2008/977/JHA (O.J. L 119 from 4.5.2016).

4 Regulation of the European Parliament and of the Council (EU) 2016/679 of 27th April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (O.J. EU L. 119 from 04.05.2016, p.1).

5 In this paper, for simplification, we use the term healthcare entities interchangeably with the statutory term entities performing medical treatment service (the Act on Medical Treatment Activity of 15th April 2011 (Journal of Law No 112, item 654, amended in 2015). The entities performing medical treatment activities include both entrepreneurs (for example doctors and nurses) and independent public healthcare centers, budget units (Journal of Law from 2015, item 581) and research institutes (Journal of Law No 96, item 618, as amended).

## **2. The essence of institutions and their impact on the efficiency of economic activity in the light of new institutional economics**

NIE pays special attention to the role and significance of institutions, which are determinants for the entities' forms of activity. These are sets of formal rules and informal norms affecting behaviors and providing order for human activity (North, 1990). The main area of interest in NIE are mostly formal institutions, that is legal regulations and other, consciously shaped and codified (formalized) principles of operating (Gorynia, 1999; Fiedor, 2013; Nowak 2009).

Formal institutions include mainly legal regulations (constitution, acts of law, regulations, decisions, norms, codes, etc.). Informal institutions, on the other hand, entail cultural and social conditions (tradition, customs, religion, habits, moral norms) and the resulting standard of behavior demonstrated by economic entities (Gruszevska, 2012). Formal institutions may change in a short time due to political and legislative processes, unlike informal institutions, which change over time (Lulewicz-Sas, 2013). In the long run, both formal and informal institutions alike change or are eliminated and replaced by new institutions (North, 1990).

According to NIE assumptions, the role of an institution consists in limiting transaction costs (Rudolf, 2010). Apart from the concept of an institution, these costs are the main concept of NIE, present in all its research directions, ranging from transaction costs economics through the agency theory to property rights economics and the theory of public choice (Mčnard & Shirley, 2005; Eggertson, 1990). The new institutional economics treats a transaction as the basic unit of analysis, and differently than in neo-classical economics; it claims that transactions (economic exchanges) generate costs defined as transaction costs. Transaction costs constitute relative costs of planning, negotiating, concluding, and monitoring contracts in various governance structures (Coase, 1937; Williamson, 1979; 1989). The governance mentioned above structures (modes) include the market, the company (organizational hierarchy) and intermediate forms, defined as hybrids (long-term contracts, license, joint venture) (Williamson, 1979; 1989; 1991). Due to the process of contract execution, we differentiate ex-ante costs, incurred before concluding the contract, and ex-post costs, after the contract is made (Williamson, 1991). The difficulty of separating transaction costs from production costs accounts for the fact that both the theory and the measure often use the concept of exchange cost being the sum of production costs and transaction costs related to a particular contract relation. The exchange cost more precisely reflects the costs of economic activity than concentration only on production costs (Gancarczyk, 2006; Benham & Benham, 2000).

The main sources of transaction costs according to NIE researchers include unequal access to information (information asymmetry) which costs and incomplete contracts account for the opportunism demonstrated by exchange partners (Williamson, 1998; Kasper & Streit, 1998; Kasper, Streit & Boettke, 2012; Klimczak, 2006; Ząbkowicz, 2003; Gancarczyk, 2002). Moreover, in NIE fields of studies, we can find assumptions that access to information is unequal for the economic entities, which means they experience information asymmetry (Gancarczyk, 2009). The costs of obtaining information are mainly of ex ante nature since they are associated with seeking information on the exchange partner and determining contract terms – mutual rights and obligations and securities in the event of contract infringement. The costs incurred at this stage are aimed at specifying contract terms and limiting exchange partner's opportunism ex post. Due to information asymmetry and limited rationality, contracts are usually incomplete, that is they contain gaps that cannot be bridged by the parties ex ante. These gaps provoke opportunistic behavior in order to maximize one's, interests at the cost of the exchange partner, using stratagem (hiding full information, giving false information, deceit, etc.) (Williamson, 1973; Gancarczyk, 2010). The contractor's susceptibility to opportunism stems from making greater investment specific for executing a given contract, that is investing in resources that are impossible or hard to use in another transaction without a loss or a decrease in their economic value (Klein, Crawford & Alchian, 1978). The potential opportunism assumption evokes the need for securities ex ante, which increases transaction costs. Opportunism, however, constitutes mostly an ex post threat, when the parties concluded the contract and took up their obligations and gaps in contracts give an opportunity for abuse (Williamson, 1991; 2005). The NIE as mentioned above assumptions explain economic phenomena, especially those related to exchange and contracting, better than neo-classical theory.

Taking into account the above considerations, the role of institutions in limiting transaction costs is performed via two functions: 1) limiting costs related to obtaining information and 2) limiting opportunism of the contract parties (Rudolf, 2010; Gancarczyk, 2002).

Costs of obtaining information can be limited by defining the operational rules which ensure predictability of the choices made by other entities and thus limit uncertainty (North, 1990).

This is manifested, for example, in the scope of information to be made accessible as public information and the one whose availability is limited by various constraints and rules governing its use. Institutions reflect the knowledge resulting from accumulating experience. By specifying the rights and obligations related to a particular sphere of human activity, they limit the incompleteness of contracts. Moreover, they regulate the costs of coordinating

complex systems, which may concern such spheres of human activity as health care, economic exchange or political processes (Gancarczyk, 2002; Suchecka, 2011).

The limitation of the opportunism shown by parties to an economic exchange is manifested in the institution's ability to regulate human behavior towards efficient activity and fulfillment of obligations. Such benefits are achieved by the specification mentioned above of rights and duties, as well as responsibilities and sanctions. By defining potential sanctions for violating the rules, institutions create securities against abuse. Thus, they support credible commitments and contribute to repeatability and stability of contracts. In consequence, they limit conflicts and build trust among economic entities (Kasper & Streit, 1998; Gancarczyk, 2002; Lulewicz-Sas, 2013).

However, there are also possible institution dysfunctions, which account for the transaction costs increase. Examples of them include unclear institutions subject to discretionary interpretation (imprecise and ambiguous legal solutions), contradictory and excluding formal regulations, or contradiction between formal and informal regulations (for example formal rules of a tender procedure and informal institution of corruption). In such cases, institutions do not perform their role in reducing transaction costs and do not perform their function of limiting barriers and costs of access to information and potential opportunism (Kasper & Streit, 1998; Kasper, Streit & Boettke, 2012; Miller, 2000).

### **3. Personal data protection as an area of economic activity in healthcare entities**

Personal data protection is governed by elaborate legal regulations, both on the European Union and national level. This activity is strongly affected by formal institutions. Personal data protection, according to the Act on Personal Data Protection (APDP), is the responsibility of all entities, regardless of their sector, and healthcare entities which provide health services, regardless of their organizational form (The Act on Personal Data Protection, Journal of Law from 2016, item 992, as amended).

Personal data entails all information concerning an identified or an identifiable natural person.

Data processing, on the other hand, is defined as “operations performed on personal data, such as collecting, consolidating, storing, classifying, changing, making accessible and deleting, especially those [operations] which are performed in IT systems.” Statutory regulations also define the tasks and responsibilities of a data administrator and information safety administrator, as entities responsible for processing and protecting personal data (Wyka

& Nerka, 2012). Data protection is understood as securing data against unauthorized access, taking data by an unauthorized person, processing data in a way that violates the act as well as changing, losing, damaging, or destroying data (Article 36 of the Act on Personal Data Protection, Journal of Law from 2016, item 992, as amended).

Economically, managing personal data entails activities and resources necessary to process and protect such data, that is to generate and use it, in order to satisfy specific needs (obtaining defined usefulness). The above activities and related resources include (Krówczyński, 2017):

- maintaining and developing material and non-material infrastructure for processing and protecting personal data;
- creating, updating and developing formal, legal and organizational rules for the activity in this field;
- contracting and supervising the personnel responsible for processing personal data;
- current operational activities concerning personal data processing;
- improving activities and resources (training, advisory services in processing and protecting personal data).

Taking into account the scope of the above-listed activities, this area of healthcare entities' operation generates high costs. It is expected that these costs will grow due to the obligation of keeping medical documentation exclusively in an electronic form. The introduction of IT systems to processing medical data calls for implementing high technological, legal and supervisory standards while generating higher costs than the traditional processing of personal data (Banyś & Łuczak, 2014, p. 213; Pasternak et al. 2011, pp. 140–144).

The choice made by healthcare entities managing personal data protection concern such performance of this activity which would allow them to achieve the required use of data access and security at possibly low costs. Particular significance and difficulties in protection characterize the so-called sensitive data, that is data concerning patients' health. A catalog of such data, regulated by the ultimate act on personal data protection, is incomplete. In particular, it does not cover genetic and biometric data.

There is also a deficit of uniform standards for processing such data in other European Union countries, especially the mechanisms preventing undesirable events. Therefore, it is difficult to prevent, detect, prosecute and punish for criminal offenses [point (4) of the Directive of the European Parliament and the Council (EU) 2016/680]. Numerous court trials confirm the existing legal gaps and the resulting abuse as well as the inability to create proper protection against opportunistic use of health data (GIODO, 2015; Krówczyński, 2017).

Personal data protection in healthcare entities is a major area of their activities, and it is governed by elaborate legal regulations. As an area of activity, this operation is also subjected to the rules of economic efficiency. On the other hand, strong dependence on legal regulations and potential areas of opportunistic behavior in this field justify the application of the research apparatus offered by NIE and to expand the efficiency assessment, taking into account the level of transaction costs.

#### **4. New regulations in sensitive data protection – an institutional analysis**

As emphasized in point 2, new institutional economics considers each activity as a kind of transaction which generates costs of servicing it (transaction costs). The activity concerning personal data protection in healthcare entities is also interpreted in this way, and its efficiency can be analyzed taking into consideration transaction costs. Below we characterized the impact of the new regulation of the European Union concerning personal data protection on the efficiency of managing personal data in the analyzed sector.

The influence of the regulation as a formal institution is analyzed from the perspective of reducing transaction costs by limiting the barriers of access to information and costs of obtaining information as well as potential opportunism – abuse in managing data. The analysis regards the potential influence and is based on the document of the regulation and its interpretation in the available studies since the regulation has not been implemented yet.

The provisions of the regulation are valid in full and are directly applied in all member states of the European Union, without the necessity of incorporating them into national legal systems. As far as the regulation is concerned, member states are obliged to repeal their locally valid legal provisions which are inconsistent with the content of the regulation. The directive accompanying the regulation binds national organs as to the result to be achieved, leaving them the freedom to choose forms and means. Contrary to the regulation, the main goal of the directive is not to unify the law but to bring the legislations closer, that is to ensure the best harmonization of the law.

The regulation determines vital areas of personal data management, especially data on patients' healthcare. Of particular significance are:

- extending and specifying the concept of health data,
- expanding the information obligations of a personal data administrator towards the entities whose data is processed,
- registering the activities of processing data,
- registering the cases of violating the personal data protection,

- specifying the scope of duties, responsibilities, control, and sanctions in cases of violating the law in this respect.

#### ***4.1 The impact of the European Commission regulation on personal data protection on limiting costs of obtaining information***

The new regulation is directed at specifying the definition of personal data concerning health, the scope of accessible information on the patient and the patient's rights. It also defines the duties, obligations, and sanctions for violating the personal data protection law.

The regulation defines and determines the scope of personal data concerning health as data on physical or mental health, data revealing the information on the past, present or future state of physical or mental health. Moreover, it introduces genetic and biometric data into the catalog of health data, specifying their categories.

The current information obligations of the entity towards the persons whose data is processed and extended, with data added to personal data of a personal data protection inspector, the legal basis and the time of processing data, the right to complaint to the supervisory body and changes in the way of processing data.

The way in which the personal data administrator works is formalized, and duty is imposed on such a person to run the register of activities concerning personal data processing, and reflecting the identity of the people processing data. Also, the categories of data processing activities, passing personal data to a third country or an international organization and a general description of technical and organizational safety measures.

Of vital importance, there is also the obligation of reporting the violation of personal data protection to the supervisory body, which is imposed by the regulation. This provision concerns the time, mode and scope of such notification. The regulation also defines the responsibility and sanctions towards the entity from the Inspector General of Personal Data, listing financial penalties amounting even up to 20 million, and in the case of an enterprise, up to 4% of its total annual global turnover from the previous year.

The above-listed provisions limit the information asymmetry between the entities involved in the procedure of personal data processing. In the event of a health service, they key entities in this procedure include a patient, a service provider, that is a healthcare entity, and a supervising entity – Inspector General for Personal Data Protection (Polish acronym – GIODO). The information asymmetry reduction will potentially affect the limitation of incomplete contracts, and thus it will reduce transaction costs ex ante and ex



post, that is the costs related to negotiating, concluding, and monitoring the execution of contracts.

The regulations decrease the ambiguity by healthcare entities regarding appropriate qualification of data and implementation of relevant management procedures. The costs of obtaining information spent on legal service are thus lowered. Also, potentially the costs of information flow inside the healthcare entity and the patient's communication with their statutory representative should decrease. A precise definition of sensitive data used in clinical tests will simplify the provisions in contracts with external service providers and shorten the time of negotiating contracts with them. This will limit transaction costs *ex ante*.

Moreover, the costs of supervising the compliance of performed procedures with the contractual provisions and the costs of obtaining information in damage suits shall decrease. Normalizing health data will limit judicial decisions in this area, which will simplify the claims procedures. Extending the information obligation will lead to the establishment of a specific contact point in each healthcare entity, in which patients or controllers will obtain information on the scope and mode of data processing. As a result, we can expect that the number of patients' complaints and claims stemming mainly from the existing information asymmetry will decline and greater transparency of actions regarding personal data processing will be achieved. These savings shall also concern the time and costs of controls and post-control activities. By specifying activities, obligations and responsibilities related to processing health data, the regulation offers possibilities of limiting transaction costs *ex post*.

#### ***4.2 The impact of the regulation of the European Commission concerning personal data protection on limiting the opportunism of parties to the contract***

The influence of the analyzed regulation on the level of transaction costs should also be considered from the perspective of regulating the behavior of entities involved in activities related to processing and protecting personal data.

Defining the rights, obligations, responsibilities, and sanctions stimulates people to be efficient and to fulfill their commitments. Limiting information asymmetry and incompleteness of contracts reduces the threat of opportunistic use of the provisions which have not been sufficiently precise so far.

The regulation assumes the reinforcement of the supervisory body – GIODO in technical, financial and staff scopes. The code of good practice popularized by GIODO and the standards of certification in personal data

safety will positively result in limiting conflicts in relations between patients, health service entities and supervisory bodies.

The Inspector General will be authorized to impose directly financial penalties and sanctions which constitute a direct security against potential opportunism – abuse in managing data. At present, due to the possibility of imposing a fine only after persistent avoidance of performing post-control recommendations or in the criminal proceedings mode, healthcare entities did not meet the required standards of patient information protection on purpose. The new solution, due to high restrictiveness, shall limit such opportunistic practices. Avoiding the obligations to meet the safety requirements will no longer be profitable with the efficient control system.

In the EU regulation, the legislator included the ban on commissioning the data processing to another entity by the direct contractor, that is the processor, without the consent of the data administrator. Additionally, if the entity processing the commissioned data violates the regulation as regards the aims and ways of performing this activity, it will be assumed a data administrator in this scope and will be directly responsible to the person whose data are processed. This means a better control of data processing standards than now. In the current legislation, entities entrusted with data processing can pass this service forward to another organization over which the administrator has no control, but he or she remains responsible for its operations. The changes concerning the possibility of further commissioning such activities will strengthen the control procedures and limit the lawlessness of external service providers.

The regulation introduces the concept of co-administrators of personal data. Co-administrators are at least two administrators who jointly set the goals and methods of processing personal data. In a mutual agreement, co-administrators should determine the scope of their duties and responsibilities concerning personal data processing (Article 26 of the Regulation of the European Parliament and the Council (EU) 2016/679).

The new definitions of co-administrators will organize legal relations between independent entities operating within individual professional practices.

Doctors who run their professional practices in the same place of data processing as co-administrators will be able to share specified rights and obligations regarding personal data processing and simultaneously inform the people whom such data concern. The overlapping procedures shall be eliminated, as well as uncertainty concerning the scope of responsibility, which often leads to opportunistic behavior of particular administrators.

The regulation also introduces the concept of a personal data protection inspector. It is a person whose tasks include ensuring that the provisions of the

regulation are observed and managing the risk of undesirable activities. The necessity to appoint a personal data protection inspector in defined cases will simplify the controlling process and will increase the transparency of rules concerning personal data protection. The assessment of the effects of personal data processing when planning activities posing a high risk of violating the rights or freedoms of individuals will strengthen controlling mechanisms at the stage of designing and enforcing them.

At the stage of implementing activities, it is possible to encounter regulation dysfunctions which account for the increase in transaction costs. They will accompany changes adjusting our legislation to the requirements of the regulation. The remaining, short time, for its implementation, the current lack of reaction of national legislation to changes, the basic healthcare system reform implemented at the same time and the lack of information campaign, may all decrease the amendment transparency and increase the uncertainty of transaction participants.

## **5. Conclusions**

The article presented the essence and impact of formal institutions on the productive economic activity in the light of new institutional economics. Moreover, it described the influence of the regulation of the European Parliament and of the Council of the European Union on the protection of personal data on the efficiency of managing sensitive data in healthcare entities, taking into consideration limitations of transaction costs. The role played by the regulation mentioned above in limiting transaction costs was analyzed by taking into account reduction of the costs of obtaining information and limiting opportunism and potential abuse related to processing health data.

The regulations, which will become valid on May 25, 2018, at the latest, will affect the increased complexity of processes and procedures of personal data processing. However, the specification of such concepts as health data and extending the information duty will broaden the catalog of preventive measures.

This will encourage healthcare entities to reconsider the forms of allocating the existing and future activities concerning personal data processing safety. The obligation to appoint a personal data protection inspector in public institutions offering healthcare services will change the allocation of activities concerning safety of personal data processing. We may expect their diversification, both with reference to public and private healthcare entities.

The verification of the current institutional solutions and their optimization are becoming an area of key importance, preceded only by medical services. The new regulation of the European Commission is an institution strengthening

the integrated approach to the safety of personal data processing in healthcare entities, which, in turn, lowers the barriers to accessing the information. The regulation, through its fiscal function, forces the implementation of several amendments positively affecting the reduction of opportunism of entities in personal data processing. The activity of healthcare entities, apart from concentrating on lowering costs related to providing medical services, must also more than ever reflect the optimization of transaction costs related to the security of personal data processing. These costs will constitute the growing percentage of total operating costs, which cannot be overestimated in the increasingly tough competition in the market of health services.

In this situation, we postulate constant monitoring and analyzing the efficiency of this sphere of activities in healthcare entities. This means, first of all, the need to research the implementation of the regulation and the assessment of its effects. The article constitutes the assessment *ex ante* of this regulation, determining its potential impact on the basis of the provisions included in the regulation. The theoretical foundations and the assumed criteria, however, may also be a starting point for the assessment at the implementation and operation stages of such an institution.

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## Legal acts

Regulation of the European Parliament and of the Council (EU) 2016/679 of 27th April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (O.J. L. 119 from 27.04..2016).

The Directive of the European Parliament and of the Council (EU) 2016/680 of 27th April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (O.J. L 119 from 27.04.2016).

The Act of 29th August 1997 on Personal data Protection (Journal of Law from 2016, item 992).

The Regulation of the Minister of Internal Affairs and Administration of 29th April 2004 on documenting the personal data processing and technical and organizational conditions to be met by IT appliances and systems used for personal data processing. Journal of Law No 4/2004, item 1025.

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# IDENTIFICATION OF FACTORS DETERMINING THE VALUE OF A KNOWLEDGE – BASED PRODUCT IN PHARMACEUTICAL INDUSTRY

**Krzysztof Kubiak<sup>1</sup>**

## **Abstract**

*In contemporary economy, particular importance is attached to non-material values, such as information and knowledge, which allow companies to gain and keep a competitive advantage. These values constitute the basic component of innovative and knowledge-based products. The purpose of this article is to identify factors which determine the value of the knowledge-based product in the pharmaceutical industry. These products are knowledge carriers; they are a result of long-term group work, they are based on the latest technology and interact with the user.*

**Keywords:** *knowledge-based product, pharmaceutical industry, non-material values.*

## **1. Introduction**

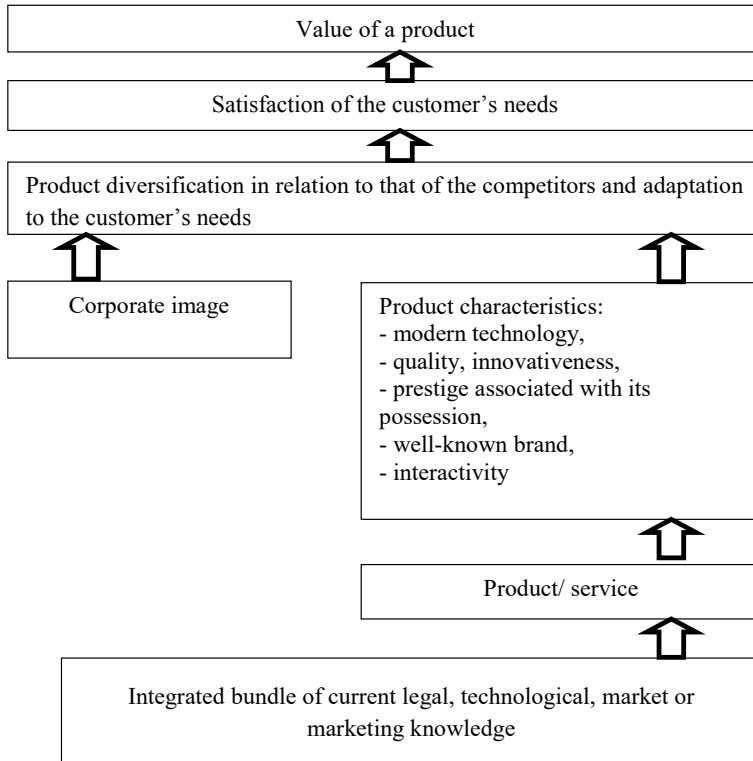
Research into knowledge-based products is particularly linked with the development of knowledge management theory. The knowledge-based product has been investigated by Walczak (Walczak, 2010), according to whom it allows to gain and keep a permanent competitive advantage. On the other hand, according to Probst, Raub and Romhard (Probst, Raub & Romhard, 2002, p. 134), purchasing of knowledge-based products can facilitate effective management. As more products have appeared on the market, it provokes a question which of them can be called knowledge-based ones. The purpose of this article is to identify factors which determine the value of the knowledge-based product in the pharmaceutical industry. The methodology of the research is based on analysis of secondary sources concerning high-tech sector, particularly pharmaceutical industry, and the author's study. Research in the form of case study concerned the identification of factors influencing the creation of pharmaceutical product value.

## 2. Importance of knowledge – based products

Continuous creation and provision of values within and beyond companies is the essence of operation and continuation of any organizational entity (Perechuda, 2005, p. 108). Modern economy attaches particular importance to intangible values, such as information and knowledge that allow people to gain and maintain a competitive advantage. These values constitute an essential component of innovative and knowledge-based products. There is the following relationship between these products (Walczak, 2010): a knowledge-based product can be an innovative product, or due to its features and characteristics it can satisfy potential or existing customer needs. Knowledge needed to manufacture a product should, therefore, be reflected in the actual expectations of customers. Differentiation - offering a product that is unique and better than the competition is crucial to meeting customers' needs. This requires an investment in the knowledge resources of a new product. Knowledge of a product is an innovation, the result of a company's activity - it is created and later sold (Klincewicz, 2012, p. 73). Examples of knowledge-based products may include the following (Klincewicz, 2012, p. 74):

- technical devices for the creation of which engineering expertise is required;
- computer programs, written based on algorithms and programming methods;
- magazines, whose writing and publishing would not be possible without journalistic and editorial skills;
- TV commercials, prepared using the research of customers' preferences and effectiveness of advertising messages;
- fashionable clothes, developed on the basis of a design prepared with the knowledge of current trends in global fashion;
- specialized food products, created thanks to the knowledge of flavor combinations and the sources of components supply;
- chemical products using knowledge of chemical reactions;
- pharmaceutical products, and
- bookkeeping, where it is necessary to know the laws and business practice.

The development of new products plays an important role in the functioning of enterprises (Brdulak, 2005, p. 47). Progressive changes in technology, ever-changing customer expectations, the shortening of product life cycle - are all becoming an increasingly critical element that determines the sustainable development and further prosperity of enterprises (Brdulak, 2005, p. 48). The following figure shows the elements that influence the creation of a knowledge-based product.



**Figure 1.** Value of a knowledge-based product

Source: own study on the basis of (Walczak, 2010).

A product based on knowledge is usually a result of many years of group effort. Group members may be experts, professionals from various industries. Such a product is based on an integrated bundle of current legal, technological, market and marketing knowledge (Walczak, 2010). The features that further distinguish this product are the following: cutting-edge technology, high quality, and innovativeness, the prestige associated with the ownership of a well-known brand and interactivity. This product is of value to customers if it meets their needs, which constitutes one of the enhancers of its behavior (Szafranski, 2012, p. 15). It is also important to distinguish the new product against other offers.

The knowledge-rich product can be an innovative product as well as it can satisfy existing consumers' needs than rival products thanks to its features and qualities. It can, therefore, be assumed that what is crucial is that knowledge on the basis of which the product has been created be reflection and derivative of real expectations of customers on a given market (Walczak, 2010).

### 3. Importance of pharmaceutical industry as high-tech sector

In the last few years, it has been possible to observe the growth of importance of high technologies. Enterprises belonging to the high-tech sector are characterized by intensive knowledge exploitation, which makes them also one of the most important sources of created inventions and innovations (Tylżanowski, 2016, p. 99). Prymus distinguished three criteria referring to high-tech industries, namely (Tylżanowski, 2016, p. 100):

- higher than average expenditure on R&D activity;
- higher than average proportion of scientists and researchers in the overall number of employees, and
- access to the research base.

Enterprises belonging to this sector should be characterized by higher than average level of innovativeness.

The pharmaceutical industry is an example of a sector with a high level of innovativeness. In the last few years, this sector has succeeded, among others, in fighting incurable diseases. Both the biggest tycoons in the sector and smaller market participants base their existence on wide-ranging R&D works. These companies generate large profits, carry out investments and employ many highly-qualified workers. It is a sector of strategic importance to the European knowledge-based economy (EAEPC, 2006, p.1).

Pharmaceutical companies play an important role not only in the economic but also social sphere since they enhance the standards of public health and produce medicine essential to fighting diseases, reducing health risks in the society and ensuring continuous healthcare.

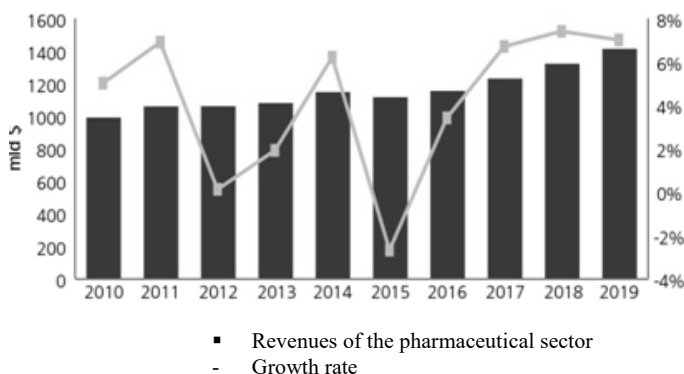
The pharmaceutical sector as a branch of economics dealing with medicine – starting from its planning, through production to distribution- is one of the most innovative industries, which invests a lot in research and development. It also willingly uses benefits of automation, robotization, and computerization, without which it would now be difficult to imagine smooth operation of any manufacturing facility (Control Engineering, 2016).

Aging societies, growing number of chronic diseases and dynamic development of emerging markets continuously contribute to increasing revenues of companies dealing with pharmaceuticals, biotechnology, and medical technology. At the same time, according to the report “2016 Global life sciences outlook. Moving forward with cautious optimism” prepared by Deloitte consulting company, this branch is under growing price pressure and demand of high effectiveness.

As a result of all these factors, in the years 2015-2019 global health expenditure is going to increase on average by 4.3 percent, which is less than before the financial crisis of 2009.

According to another report “The Economist Intelligence Unit (EIU),” in 2014 national health expenditure in 60 countries grew by 2.6 percent, however, in 2015 it dropped. Between 2015 and 2019, global health expenditure is going to grow by 4.3 percent annually, however, there are major discrepancies between different regions. In Western Europe, it is going to be only 1.4 percent, in South America 3.1 percent, in North America 4.8 percent, in Asia 6.6 percent, while in Near East and Africa as much as 9.3 percent. This expenditure, analyzed as participation in global GDP, is going to fall slightly within the next few years. In 2014 it amounted to 10.3 percent of GDP while in 2019 it is going to be 10.1 percent. By contrast, health expenditure per capita is going to grow from 1145 dollars in 2014 to 1412 dollars five years later. However, there are still major discrepancies between different countries in this area.

For years, the pharmaceutical industry has been regarded as one of the most profitable and at the same time one of the most competitive ones. In 2015 its global revenues amounted to 1.11 trillion dollars, which means that they had fallen by 2.7 per cent in comparison to 2014. However, forecasts for the years 2018-2019 are far more optimistic. According to Deloitte’s estimations, in 2019 the global revenues of the pharmaceutical sector are going to amount to 1.4 trillion dollars (Figure 2).



**Figure 2.** Global revenues of the pharmaceutical sector

Source: Deloitte (2016).

The pharmaceutical industry is one of the fastest-growing manufacturing sectors both in Poland and in the world. Growing automation, robotization and computerization of pharmaceutical factories make it possible to enhance the

quality of the products and to meet very strict legal requirements connected with medicine production (Control Engineering, 2016).

According to the report “Poland 2025,” elaborated McKinsey & Company global consulting firm, Polish pharmaceutical market is growing continuously and represents currently the value equivalent to 1 per cent of our GDP. It means that it is the biggest market in Central Europe and the sixth biggest in the European Union. Taking into consideration that Polish manufacturers focus more on advanced medicine markets, the level of exportation is still high and tends to grow (McKinsey & Company, 2015).

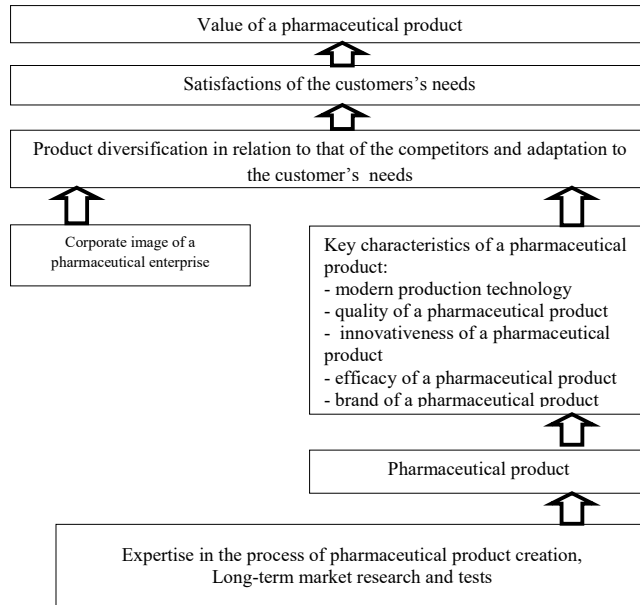
According to the latest report of “Global Medicines Use in 2020,” drafted by IMS Institute for Healthcare Informatics, it is estimated that the value of the global market for medicine in 2020 is going to amount to 1.4 trillion dollars (IMS Health, 2016).

#### **4. Knowledge – rich pharmaceutical products**

The development of the pharmaceutical industry is linked with launching new products while the definition of a new product is very broad. It may refer to a new particle, a new biotechnological method, upgraded joint prosthesis, as well as a new type of over-the-counter medicine, a new form of medicine already existing in the market or even an altered packaging of a given substance (Michalik, Pilarczyk & Mruk, 2008, pp. 111-112).

While analyzing the idea of a knowledge-based product, factors determining the value of a pharmaceutical product were identified. Creation of this product’s value is based on a specialized knowledge bundle. This knowledge concerns the market onto which the product is going to be launched, manufacturing technology, legal expertise. As a result of the application of this specialized knowledge bundle, a new product is created. It should have the following characteristics: innovativeness, high quality, brand building, and efficacy. Thanks to the said characteristics, it contributes to the satisfaction of human needs (Figure 3).

A knowledge-based product, in this context a pharmaceutical one, is the effect of specialists’ work and research carried out by them. Manufacturers of medicine allocate more and more resources to research into new products. Taking into account limited expenditure on research financed by universities, governments or different foundations, pharmaceutical companies must increase their spending on research. Implementation of a new product may be strictly related to brand positioning. Manufacturers may use different solutions, ranging from major changes to the product to slight product modification while positioning a new brand at the same time.



**Figure 3.** Value of a pharmaceutical product

Research and development in pharmaceutical enterprises are (EFPIA, 2016, p. 6):

- long (from 12 to 13 years from the moment of the invention of a new product to its introduction to the market, Figure 4);
- expensive, and
- risky (usually 1 in 10000 medicine produced in laboratories becomes the final product).

Years	
13	Introduction
12	Subsidy
11	Price determination
10	Registration
9	Clinical trials
...	
5	Pre-clinical development
...	
1	Patenting

**Figure 4.** Research and development in pharmaceutical enterprises

Source: own study on the basis of (EFPIA, 2016, p. 6).

The distinguishing characteristics of a knowledge-based product, in this context of a pharmaceutical one, are as follows: new technology, which is also vital from the perspective of manufacturing, high quality of the product, innovativeness, and brand.

Medicine production is an extremely complex venture, consisting of a sequence of isolated operations, which need to be carried out in accordance with the strictest regulations. Nowadays it is difficult to picture smooth operation of a pharmaceutical factory without specialized devices, which must comply with many requirements, such as the kind of material used in production. Medicine manufacturers more often opt for fast, precise and very efficient industrial robots (Control Engineering, 2016).

Nowadays pharmaceutical companies support themselves with advanced systems which store and enable to browse, compare and analyze all the data concerning the company's operation, products, and customers.

They not only significantly facilitate the work of specific departments and optimize almost all the processes but they also make an important contribution to the management of the whole company. Their task is to support many functions, particularly essential to the pharmaceutical industry, such as automation of the process of product alterations and their approval, shelf life control or purchasing management through batch or lot control (Control Engineering, 2016).

A pharmaceutical product is innovative as it is subject to continuous modifications and upgrades, which can provide new or more benefits to consumers. Innovativeness can be understood as an ability and motivation of business entities to continuously search for and use in practice new inventions of scientific studies and R&D works, new ideas of products, industries, and inventions (Kolterman, 2013, p. 29). The term of the innovation process is understood as generating an innovative idea, regardless of what it concerns and in which area the innovative activity is performed, only then we deal with its creation, planning, and execution. The implementation of a new product or solution becomes the fundamental event in the process understood in such a way (Kolterman, 2013, p. 24).

Creation of an innovative pharmaceutical product consists of joining internal and external knowledge in order to implement innovations whereas along with the evolution of the innovation process theory, we can observe that more and more importance has been attached to the interactions between the innovator and the environment (Truskalski, 2014, p. 43). Each innovation, including product innovation, is the effect of the whole range of previous actions of scientific, investment, product-related, and financial nature (Kolterman, 2013, p. 25).



A brand is also a vital factor in a pharmaceutical product (Michalik et al., 2008, p. 127). It may bring an added value to the patient and at the same time increase the value of the enterprise. Growing competition and globalization make manufacturers put more effort in branding. However, the attractiveness of the brand is not permanent. It is of relative nature due to the changes that may be brought about by competitor activities. The more careful the preparation of all the branding components is, the more efficient the brand management will be (Michalik et al., 2008, p. 130).

The value of the pharmaceutical product will be higher if it satisfies the customer's needs and in some cases, saves their life. The concept of personalized medicine fighting specific diseases and dedicated to a specific target group becomes more common.

If we also take into account the Internet of Things as well as cybersecurity issues connected with storage of customers' data along with process data and recipes, we would be able to discuss a completely different scale of process computerization and automation, contained in broadly defined and publicized idea of digital transformation or Industry 4.0 (Control Engineering, 2016).

#### **4. Conclusions**

Creation of products which satisfy customers' needs more effectively than competing products is and will still be the basic component of building competitive advantage. However, knowledge will play an increasingly significant part in this process. Research carried out among pharmaceutical enterprises which belong to high-tech industry prove that they are an engine of economic growth since they launch innovative products into the market. Pharmaceutical companies play a key role not only from an economic but also from a social perspective. In this context, further research within high-tech industry can provide many indications and guidelines for other branches of economy.

The pharmaceutical industry is characterized by high technical intensity, which can be justified by the strong participation of knowledge included in a given product or process. The success of new solutions in pharmaceutical industry depends on many factors, such as the market, financial capabilities of companies, expertise, legal restrictions. Pharmaceutical products fulfill all the assumptions of knowledge-based products. This article has defined the factors determining the value of the pharmaceutical product, namely specialized knowledge of scientists, high production technology, innovativeness and quality of the product as well as its brand. All these characteristics as well as striving to satisfy the customer's needs increase the value of a pharmaceutical product understood as a knowledge-based one.

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# THE ANALYSIS OF COMPETITIVE BEHAVIOUR OF ENTERPRISES IN THE CHOCOLATE AND CONFECTIONARY INDUSTRY

Dominika Mierzwa<sup>1</sup> and Joanna Zimmer<sup>2</sup>

## Abstract

*Under conditions of high competitiveness, the chance for survival and development of the enterprise is guaranteed by a quick and efficient analysis of its competitive situation and the main factors that could jeopardize its future functioning. The appropriate behavior of the management staff consisting in fast-paced and rational decisions can become a solid basis for overcoming all the difficulties that the modern economic reality creates. This article makes use of the McKinsey matrix (General Electric), which enabled to analyze competitive behaviors and to evaluate the strategic situation of the chocolate and confectionery industry. The diagnosis has indicated that the applied strategies of the domain must be changed as they inhibit the investment process in the most significant areas of business. Therefore, the aim of the article is to analyze and evaluate the competitive behavior at the level of strategic business units as well to indicate the directions of changes in the adopted strategies. The conducted studies greatly illustrate the overall market balance of the analyzed SMEs enterprises and reflect their strategic situation in the examined industry.*

**Keywords:** *competitiveness, competitive advantage, domain of activity, matrix, McKinsey method.*

## 1. Introduction

The increasing role and importance of the minor markets, the progress of technology and information processes, the internationalization of knowledge have forced small and medium-sized companies to work out ways to achieve competitive advantage. The fundamental condition for the survival and growth of the company is the selection and implementation of an appropriate strategy that will provide the organization with a market advantage for a long time.

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In order to succeed in the industry, the Managers must continually monitor the economic environment, respond quickly to developments and draw appropriate conclusions to improve their economic situation.

In recent years, the chocolate and confectionery industry has become particularly important in the food industry. It is characterized by a high average profitability and constant annual growth rate. The attractiveness of the industry has increased in the intensity of competition and the offensive actions of chocolate companies. Adopting the appropriate organization strategy at the headquarters and domain level is a necessary condition for efficient and effective operation in a volatile economic environment. Chocolate-confectionery companies should not only take care of the attractiveness of the manufactured products but also attempt to maintain a competitive international position.

Six companies located in the Silesian province belonging to the SME sector - all with long-standing tradition- were surveyed in detail. The selected organizations have only Polish capital and are located in a region with a very high industry competitiveness. Annual reports, summary reports, and original documents were the main source of information on the output and market situation of the analyzed organizations. All data came from sources verified and approved by the management boards of the surveyed companies. The necessary statistical CSO data were also obtained, which was relevant to the issues raised. McKinsey's matrix was used to thoroughly analyze the strategic behavior of the businesses, which enabled to investigate the domain (s) of the selected organizations. The adopted methodology evaluated the strategic as well as indicated directions for the development of enterprises in a particular sector.

The authors visited each organization several times in order to get acquainted with its functioning and applied management techniques (participant observation method). Thanks to that they could get to know more about the assortment produced there as well as to assess the modernity of the plant and analyze the basic problems associated with performing individual tasks.

The aim of the article is to analyze and evaluate the competitive behavior of the surveyed organizations at the level of strategic business units. The findings of the study were prepared in tabular and graphical form. Due to the confidentiality of the data obtained from the company, its full anonymity has been preserved.

## 2. The essence of strategic behavior of the organization

In the literature of economic subjects, the behavior of companies on the market is usually defined as a series of reactions to actions taken by other entities, with which companies are in exchange relations or as reactions preceding these actions and leading to specific attitudes (Żabiński, 1999). The first of these behaviors can be attributed to market adaptation behaviors, while the others are referred to as active and enterprising. Depending on the profile of their business, companies remain in the appropriate relations of the exchange and sale of products/services with other business entities, where the behaviors are also dependent on many of their previous market activities. According to this logic, the object of behavior is, among others: determination the target market by the company, selection of the customer segments to be served, the product design and the appropriate distribution channels and promotion tools.

According to Stankiewicz, the behaviors of the economic entities can be classified based on two basic criteria:

- 1) the activity manifested in interactions with the environment
- 2) the characteristics of the decision-making processes underlying the specific components of the analyzed behaviors (Stankiewicz, 1994).

According to the author, the second criterion of classification, which can be divided into strategic and non-strategic behaviors, takes on greater importance. The first of these is defined as “all behaviors that are fundamental to the survival and development of the enterprise and for defining its position in the environment in the foreseeable future” (Stankiewicz, 1994). Their primary feature is to subordinate to long-term goals adopted by the company as well as to launch strategic activities and consequently decision-making processes. According to this concept, the remaining behaviors of enterprises should be classified as non-strategic.

The research and analysis of enterprises, which have been carried out in recent years, indicate a lack of uniform interpretation of the concept of strategic behavior. The authors of the German publications, Neuss and Nippel, describe them as the ones that influence the actions of other economic entities while allowing them to improve their formal assumptions. They add that the appropriate implementation of adaptation strategies without changing the competitive position of an organization is not one of these behaviors (Neuss & Nippel, 1996). Similarly, Jędralska states that “the sense of strategic behavior that is embedded in the company’s response to changes in it must be reinterpreted” (Jędralska, 2010, p. 130). According to the author, the basis of the success of the market behavior is the ability and competence of managers to transform and subordinate their environment.

In light of these speculations, it can be stated that strategic behaviors are, in other words, competitive behaviors, that is, certain patterns of behavior, regularity, repetitive patterns of action, a specific attitude towards the problems and challenges that are relevant in order to determine the position of the company in its surroundings over a long horizon. There are two basic patterns of competitive behavior. The first is a confrontation with competitors where the company directly or indirectly competes with other companies in the industry. The second is avoiding competition by dividing the market, creating barriers to enter the market or even cooperation with competitors.

The economic practice has developed various ways of coping with changing economic conditions. Entrepreneurs have repeatedly begun to imitate the behaviors of companies that have achieved market success by learning to avoid those that fall into unsuccessful ventures. The imperative of making the right decisions, therefore, urges the enterprise to look for the structure of various types of determinants essential to the development and attainment of the competitive advantage of the economic entity (Urbanowska-Sojkin, 2011).

### **3. Competitiveness and competitive advantage**

Competitiveness in the economic sense, referring to the functioning of an enterprise is a term which is extremely often used, but at the same time insufficiently defined. This concept had its roots in the 70s of the 20th century when there were already over 300 definitions of competitiveness officially adopted at the level of various sciences (Olczyk, 2008). Such a significant number of concepts results from the fact that it is considered at several levels: micro - micro (the level of goods and services), micro (the level of enterprises), meso (the level of industries & branches of the economy), macro (the level of the national economy), mega (the international level), and meta (the future level). In addition, this definition is derived from a minimum of three economic theories – the theory of international trade, economic growth, and microeconomics (Borowiecki & Siuta-Tokarska, 2012).

Competitiveness of an enterprise can be regarded as the ability to remain on the market with a given group of goods, with the possibility of acquiring financial gain higher than the costs incurred, and with possibly transitional losses resulting from the modernization of the product or its production. This is a multidimensional feature of the organization, which consists of its partial elements in each strategic area of the company. Therefore, it can be said that the concept of competitiveness has a static element (a judgment at a given moment) and a dynamic (a set of factors affecting its improvement in the future) (Rosenbaum, 2017).



However, in the economic theory, there is still no clear definition of this concept. In this respect, there is a consensus among researchers that competitiveness should be, in any case, considered primarily as a relative phenomenon, which clearly defines the area of competitive competition (Masłyk-Musiał, 2010). While defining competitiveness, the simple and concise definitions are applied as they are adequate at each level of speculations. Burnewicz defined competitiveness as “the ability to oppose competition” (Burnewicz, 1993, p.23), while Gorynia described it as “the ability to compete, i.e., to act and survive in a competitive environment” (Gorynia, 1998, p. 35).

According to the Encyclopedia of Business, the enterprise’s competitiveness (micro-enterprise) is related to “tailoring products to market requirements and competition, especially in terms of assortment, quality, price, and use of optimum sales channels and promotion methods” (Pomykało, 1995, p.117). This is a definition that emphasizes the role of distribution channels in achieving the enterprise’s proper objective.

The ability to compete in the changing economic environment is conditioned by the company’s achievement of a visible, sustainable and hard-to-copy strategic advantage. Thanks to the adopted instruments of competition, the enterprise can improve its market position, thus ensuring a harmonious development in all its activities (Bijaoui, 2017).

One of the most popular models of competition is the M.E. Porter model, where two basic advantages have been adopted: lower costs and differentiation (Figure 1). The first of them requires the company to carry out a series of integrated actions to produce products/services at the lowest cost possible compared to competitors; the other is to offer customers products/services that they consider to be unique (Porter, 2009).

		COMPETITIVE ADVANTAGE	
		Lower costs	Differentiation
COMPETITIVE OBJECTIVE	Whole industry	Cost leadership	Differentiation
	Segment	Concentration on costs	Concentration on differentiation

**Figure 1.** Sources of competitive advantage in the Porter model

**Source:** Porter (2009).

The dual nature of the strategy indicates that an enterprise can be considered both in terms of market (industry) and production. According to Porter, the enterprise setting itself a competing target may strive for cost leadership, differentiation, or concentration.

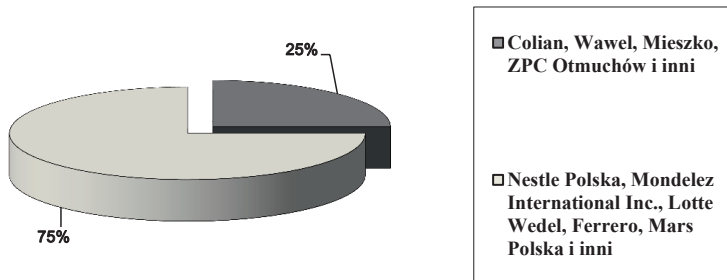
#### 4. Characteristics of the chocolate and confectionery industry

The confectionery industry in Poland is currently the best-growing food industry. Its value in 2016 amounted to about 13 billion PLN, with the largest share (50%) of chocolate products. Other segments include sweet and salty snacks, biscuits and cakes, sweets, lollipops, jellies and drops as well as chewing gum.

Currently, the Polish chocolate and confectionery industry is one of the most modern in Europe. After the accession to the EU, domestic producers started modernizing their factories, upgrading their production lines. Many international corporations have also begun investing in the Polish production facilities, supporting their dynamic development (Kociszewski & Szwacka-Mokrzycka, 2016).

The economic situation of the confectionery industry in the country is stable and resistant to business fluctuations. It develops at a small but steady rate of about 4-5% a year, which proves the maturity of this market. It is estimated that in 2018 the value of the entire Polish confectionery industry will amount to about 18 billion PLN. More than 1/3 of all confectionery products produced in the country is destined for export to EU countries, especially Britain and Germany. The value of foreign transport increased by 12 percentage points in 2015. Compared to 2009, the distribution of products greatly facilitates the growing commercial network and the integration processes which occur in the Polish trade. Association of independent wholesalers and retailers into the purchasing groups is conducive for collaboration with a large number of customers. It enables to reduce the time and cost of entering into market transactions. Due to the fact that many products of this industry have a short shelf life, logistic processes are a priority for confectioners (<http://analizarynku.eu/rynek-slodyczy>).

There are about 350 manufacturers in the confectionery industry, but the market is dominated by several major players: Colian, Wawel, Mieszko, ZPC Otmuch, Nestle Polska, Mondelez International Inc. (Kraft Foods Group) Lotte Wedel, Ferrero and Mars Polska. Polish confectionery producers have less than 25% share in the confectionery production and the foreign ones have a share of ca. 75% (Figure 2).



**Figure 2.** Share of Polish and foreign producers of the chocolate and confectionery industry [in%]

**Source:** Retrieved from <http://analizarynku.eu/rynek-slodyczy> (accessed on: 16.03.2017).

About 100-120 of all companies operating in the country belong to medium & large companies, while the vast majority of them are small companies employing up to 49 people. Currently, the number of employees in the confectionery sector is over 20,000 employees (<http://www.polskieradio.pl/42/3166/Artykul/1568485>).

The attractiveness of the sector poses a threat to the appearance of new products. Increasing competition and the introduction of new technologies are conducive to innovation in terms of product. Investments in manufacturing facilities shorten the life cycle of foodstuffs and increase the frequency of introducing new products. Competition forces the continuous improvement of the product quality, the design, size of packaging, new flavors, and shapes.

The biggest threat to the development of the confectionery industry in Poland is mainly the unstable pricing situation on the raw materials market. Confectionery analysts and candy manufacturers point out that the rise in the value of the sweets market in the period 2015-2016 was due to the increase in prices of retail products, which resulted from increases in raw material prices. Prices of basic raw materials, i.e., flour, fats, milk powder, sugar or cocoa are growing steadily. Sugar supply in Poland does not meet domestic demand, which is why Poland is forced to import it. The situation is the result of a high net profitability of the sugar sector, which is around 19%, while the average profitability of the entire food industry is only 3-4%. The hitherto sugar production in Poland in the sugar campaign in the years 2015-2016 was significantly lower than in 2014 (<http://www.minrol.gov.pl>). According to the preliminary CSO data, between September 2015 and May 2016, 1,554 thousand tons of sugar were produced, which was 24 percentage points less than a year ago.

## 5. The strategic analysis of the surveyed enterprises

The confectionery industry can be divided into several basic strategic domains: chocolate (chocolate tablets and bars), chocolate products (chocolate candies, chocolates, dragees, chocolate waffles), confectionery pastry (biscuits, waffles, gingerbreads) chocolate-like products & products in cocoa coating (cocoa-coated gingerbread & waffles ) candies (caramels, dragees, pressed powdered candies), eastern products (halva, caramelized products, nougats, roasted peanuts), other durable confectionery products (gel & sugar products made from saturated fat, marzipan, cocoa butter, chewing gum) (<http://www.studium.agrobiznesu.up.lublin.pl/images/ar6.pdf>).

An attempt was made to select specific areas of activity (domains) and to construct the McKinsey (GE) matrix in order to better analyze the strategic behavior of the surveyed companies in the chocolate and sugar industry. The GE matrix is based on two basic assumptions:

- The company should operate in the most attractive sectors, and eliminate the domains in the less profitable segments.
- The company should focus on investing in domains with a strong competitive position and withdraw from those where their position is weak (Gierszewska& Romanowska, 1997).

Together with the management of the surveyed enterprises, factors affecting the attractiveness of the industry and the competitive position of enterprises were identified. Each component was assigned the appropriate weights ( $\sum = 1,00$ ) and was evaluated according to the accepted scale from 1 to 9. These evaluations were then multiplied by the scales given values to obtain the domain coordinates (SBU<sup>3</sup>) in the matrix.

The analyzed companies adopted the strategy of production diversification, therefore six main areas of activity were identified (Table 1).

**Table 1.** Assessment of the industry's attractiveness and the competitive position of the SBU in 2016 according the board and sales professionals

Domain	Variable	Company					
		P1	P2	P3	P4	P5	P6
1. Chocolate	The sector's attractiveness	7,30	5,90	7,00	5,50	6,90	5,80
	Competitive position	4,50	4,00	3,50	2,70	3,90	3,60
2. Chocolate products	The sector's attractiveness	6,40	5,70	-	6,55	4,90	7,50
	Competitive position	5,00	5,35	-	4,05	2,20	4,90

3 SBU –eng. Strategic Business Unit

Domain	Variable	Company					
		P1	P2	P3	P4	P5	P6
3. Confectionary pastry	The sector's attractiveness	4,50	4,20	-	3,80	4,30	-
	Competitive position	2,65	5,40	-	4,50	1,25	-
4. Chocolate-like products	The sector's attractiveness	-	-	-	-	4,30	3,80
	Competitive position	-	-	-	-	5,30	4,80
5. Eastern products	The sector's attractiveness	5,20	4,90	6,10	-	-	6,05
	Competitive position	5,25	4,20	5,60	-	-	2,90
6. Other durable confectionary products	The sector's attractiveness	-	3,50	4,00	-	-	4,25
	Competitive position	-	4,10	2,30	-	-	2,40

The use of the GE methodology in the surveyed companies makes it possible to identify the strengths and weaknesses of the domain under study and, at the same time, is a guideline for adopting the appropriate strategic behaviors of the enterprise (see Table 2).

**Table 2.** The strategies derived from the domains' analysis using the McKinsey method

Lp.	Domains	Company					
		P1	P2	P3	P4	P5	P6
1	Chocolate	++	++	++	--	++	+-
2	Chocolate products	++	+-	-	++	--	++
3	Pastries	--	+-	-	+-	--	-
4	Chocolate-like products	-	-	-	-	+-	+-
5	Eastern products	+-	+-	++	-	-	+-
6	Other durable confectionary products	-	+-	--	-	-	--

**Note:** sign „++” means the growth / expansion strategy; sign “+ -” means the transitional strategy; sign“- -” means the withdrawal from the market strategy; sign “-” indicates no domain.

The assortment distribution of the surveyed enterprises indicates the need to adopt appropriate strategic behaviors with respect to a particular domain - which products continue to develop, which to eliminate and what to do with mediocre products. Based on the research conducted, it can be seen that

most of the analyzed business units are in the transitional strategy phase, so they should undertake various actions to improve production and maintain defensive positions against the stronger competitors in a given segment.

The well-developed domains of the studied companies are particularly noteworthy: chocolate (P1, P2, P3, P5), chocolate-like products (P1, P4, P6) and eastern products (P3). These companies should adopt, in their respective segments, the growth strategy based on improving or maintaining the competitive position. The aim of the company will be to expand or maintain its market position in the areas of activity by, for example, making investments that increase the scale of supplies, by improving the technology, deepening and expanding the assortment, undertaking various marketing activities. The domains (SBU) are not economically viable in the production of companies - P4 (chocolate), P5 (chocolate-like products), P1 and P5 (confectionery pastry), P3 and P6 (other durable confectionery products). These companies should adopt strategies to withdraw from the market specified SBU. It is important that they aim to maximize profits in the short-term with the assumption of minimizing operational risk and capital expenditure constraints (Garbarski & Rutkowski, 2000).

Thanks to the McKinsey's matrix, the company gets the tips concerning which products it should adopt the growth strategy, the sustainability and co-financing strategies, and concerning which to apply the withdrawal from the market strategy. The main advantage of the GE matrix is its flexibility in assessing the industry's attractiveness, which facilitates the arbitrary design of the situation in a particular sector or on a particular market. The fundamental disadvantage of this technique is undoubtedly the subjectivity of the evaluations of the people involved in the analysis.

## **6. Conclusions**

The ability to compete in a changing economic environment is conditioned by the company's achievement of a visible, sustainable and difficult-to-copy competitive advantage. With the adopted instruments of competition, the enterprise can improve its market position by ensuring a harmonious development in all its business areas.

In the context of empirical research and own observations, the following conclusions were made:

- 1) The most important stage in the formulation of a strategy by a company, or the choice of a specific strategic behavior, is to recognize the ability to maintain or improve its market position. It is assumed that the acquisition of

competitive advantage depends on both the structure of the sector in which it operates and the ability to use its resources.

2) Improving the company's competitiveness depends on its better location in the surrounding environment as well as on streamlining its hitherto activities. Building a strong market position can be a result of changes within the domain, the configuration of a chain of primary and secondary tasks, location, or a wide range of resources.

3) The analyzed companies require new action at the business level. This is indicated by the analysis of strategic behaviors conducted by the McKinsey method. So far, the applied strategies at the domain level are hampering the processes of investing funds in the most significant areas of business.

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# INDUSTRY TRANSITION– CHALLENGES FOR VALUE CAPTURE

**Marta Najda-Janoszka<sup>1</sup>**

## **Abstract**

*The transition period in the industry life cycle induces a profound reconfiguration in the competitive landscape. A shift from an early, fluid state to a mature stage generates both strategic threats and opportunities for capturing value by incumbents as well as new entrants. Thus the challenge is to identify early harbingers of that transition in order to formulate an appropriate strategic response allowing for protecting and strengthening captured value streams. Existing gaps regarding causal explanations of industry transformation and the processual nature of value appropriation ignited the discussion presented in the article. The aim of this study is to enhance the understanding of the dynamics of the value capture process by examining the features of industry transition. A thorough review of the theoretical and empirical studies on the subject matter enabled formulation of propositions that refer to the problem of identifying the transition signals and relate the competitive dynamics of the transition period with the value capture practices.*

**Keywords:** *industry transition, industry life cycle, value appropriation, value capture.*

## **1. Introduction**

The transition from an emerging industry to a mature one induces a profound rearrangement in the competitive landscape. It is a critical period – hardly predictable but also highly demanding with regard to a time frame for reconsideration and reconfiguration of firms’ strategic behavior. Industry transition challenges both the strategic structure and focus. When an industry enters maturity, a quite common observation is the slump of the once influential players. Hence, the managerial challenge refers to practices enabling successful capitalizing on the critical instability during a transition period in the life cycle of an industry. Meanwhile, there are substantial gaps regarding exploration of an ongoing industry transition, as presented lines of reasoning are practically based on retrospective data on industries that had already achieved the stage of maturity.

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Moreover, there is a paucity of studies that analyze value capture in terms of a process that extends beyond the mere point of transaction. Thus, to address those gaps, the aim of this article is to discuss the dynamic nature of the value capture process by examining the features of industry transition and thus provide a theoretical basis for the further empirical study. A thorough review of the theoretical and empirical studies on the subject matter enabled formulation of propositions that refer to the problem of identifying the transition signals and relate the competitive dynamics of the transition period with the value capture practices. In what follows, the article begins with a discussion on the problem of conceptual framing during the transition period in the industry development trajectory. Then, the focus is shifted towards strategic maneuvering performed in response to industry-transition triggers and aimed at receiving, protecting, and retaining value. The final section of the article presents conclusions and suggestions regarding future research.

## **2. Transition period in the industry evolution**

In search for comprehensive explanations why some firms survive through time and others fail, many scholars have turned their attention to a cumulative change in industry characteristics. Extant research provides clear indications that the nature of industries evolves over time (e.g., Hannan & Freeman, 1989; Miles, Snow & Sharfman, 1993; Klepper, 1996; Audretsch, Houweling & Thurik, 2004; Cusumano, Kahl & Suarez, 2015). Broad theoretical considerations supported by prolific empirical investigations have confirmed that industry evolution is more than just statistics of firm entry, growth, and exit. Research on industry development produced a vast body of literature providing valuable insights into the dynamic interdependencies between environmental changes and firm's strategic choices. Although as pointed by Porter (1980) there is no uniform way in which industries evolve, and a review of seminal works shows a quite consistent picture of industry evolution pattern. Most of well documented longitudinal studies have analyzed regularities and irregularities in the trajectory of industry development by referring to the industry life cycle concept decomposed into emergence, growth, mature and decline stages (e.g., Abernathy & Utterback, 1978; Klepper, 1996; Miles et al., 1993; Anderson & Tushman, 1990; Peltoniemi, 2011). The extant scholarship supports the argument that different stages of industry life cycle represent different competitive conditions with earlier stages characterized by high product/technology variation, producer/market uncertainty and cost. While later ones are exhibiting decrease across these categories (Abernathy & Utterback, 1978; Anderson & Tushman, 1990; Miles et al., 1993; Peltoniemi, 2011).

Considering the nature of the topic being explored in this article, it is important to highlight that the transition stage from growth to maturity is widely recognized as a critical time in the industry life span, since it brings in a profound, discontinuous reconfiguration of the competitive landscape of a particular industry (Porter, 1980; Agarwal, Sarkar & Echambadi, 2002; Cusumano et al., 2015). In order to discriminate specific conditions indicating this transition period a deeper understanding of mechanisms that produce life cycle pattern is necessary. The state of the art suggests that no dominant evolutionary mechanism has emerged. Instead, there are three parallel research streams providing distinct, yet to a certain degree complementary, proposals namely: evolutionary economics, technology management, and organizational ecology (Agarwal et al., 2002), which are presented in (Table 1).

**Table 1.** Research streams on the industry life cycle concept

<b>Research stream</b>	<b>Key mechanism of industry evolution</b>	<b>Main contributors</b>
Evolutionary economics	Knowledge regime (properties of knowledge base for innovative activity) driving the cost-spreading effect and determining the minimum efficient scale barriers.	Audretsch (1991), Klepper (1996), Klepper & Miller, (1995), Malerba (2006)
Technology management	Technological developments (discontinuities) creating competition for dominance between multiple alternative product/technology designs	Abernathy & Utterback (1978), Anderson & Tushman (1990), Christensen, Suarez & Utterback (1998), Murmann & Frenken (2006),
Organizational ecology	Density of population (industry) enhancing its institutional legitimacy and facilitating competition over the same set of finite resources.	Hannan & Carrol (1992), Hannan & Freeman (1989), Wade (1995), Baum & Oliver (1991)

A thorough review of presented alternative understandings of mechanisms underlying the evolutionary pattern of industry life cycle, it enables identification of an appealing set of indicators informing about transition from an early stage of evolution to a fully mature form of an industry. Drawing on the illuminating insights provided by each research stream, table 2 presents those indicators together with the limitations of their applicability highlighted in the extant literature.

<b>Transformation indicator</b>	<b>Main supporting works</b>	<b>Limitations</b>	<b>Main challenging works</b>
Increasing share of process innovations enabling cost reductions at the expense of product innovations	Cohen & Klepper (1996)	Difficulties in discriminating between cost reduction and performance improvement innovations; in some industries, no shift in innovative activity occurs	Malerba & Orsenigo (1996); Filson (2001); McGahan & Silverman (2001);
Technological convergence facilitating emergence of a dominant design	Abernathy & Utterback (1978) Anderson & Tushman (1990) Suarez (2004); Suarez, Grodal, & Gotsopoulos (2015)	Some industries exhibit persistent coexistence of multiple designs. Dominant designs may emerge several times during industry life cycle	Srinivasan, Lilien & Rangaswamy (2006); de Vries, de Ruijter & Argam (2011); Murman & Frenken (2006)
Introduction by a single firm a new product that benefits from a large, unanticipated surge in demand – innovation stock	Argyres, Bigelow & Nickerson (2015)	A synthesis of fragmented, independently introduced innovations, narrow class of designs can produce a shift in competitive dynamics of an industry	Suarez & Utterback (1995); Teece (1986)
Shakeout while industry input is still growing	Abernathy & Utterback (1978); Klepper & Graddy (1990); Jovanovic & MacDonald (1994)	Not all industries experience shakeouts; their evolution can be driven by submarket dynamics	Klepper & Simmons (2005); Klepper & Thompson (2006)
Increasing concentration of resources in fewer large organizations	Utterback & Abernathy (1975), Aldrich & Pfeifer (1976),	Submarkets, persistently fragmented industries	Breschi, Malerba & Orsenigo (2000)
Increasing disintegration along the value chain	Stigler (1951)	The relationship between the industry life cycle and vertical integration is non-monotonic; the pattern of evolution of vertical firm structure depends on contextual factors – some industries exhibit persistence of integrated firms	Bigelow & Argyres (2008); Kapoor (2013); Hellat (2015)

Although the literature provides substantial support for identified indicators, numerous studies are emphasizing their conditional validity. Authors point to the existence of alternative evolutionary patterns where particular indicators appear in a modified way or do not occur at all (Table 1). Moreover, limitations highlighted by challenging research works are primarily related to specificities of given industries under investigation, e.g., industries with high R&D intensity, consumer goods industries, complex product industries, and service industries (Srinivasan et al., 2006; Peltoniemi, 2011). Hence, those limitations form an appealing set of boundary conditions for suggested causal relationships.

Strategic management calls for a timely response to changing circumstances (D'Aveni, 1994; Christensen et al., 1998; Najda-Janoszka, 2016a) in order to capitalize on merely momentary windows of strategic opportunity. Thus the main challenge relates to a proper identification of possible early signals of the shift in the industry of competitive dynamics. A review of extant literature on the industry life cycle leads to a conclusion that provided causal explanations of transformation are based on retrospective data on industries that had already achieved the stage of maturity. Hence, having a detailed, fine-grained map of previous decisions and their consequences it is quite viable to trace back initial triggers and build the causal logic of the subsequent development trajectories. The perspective dramatically changes when it comes to discriminate harbingers of an ongoing industry transformation. It has been observed that the pace of changes shaping the evolutionary pattern of industries is accelerating and thus further shortens the time for sensing and seizing opportunities before the occurrence of a shakeout (Agarwal et al., 2002). Moreover, it is practically infeasible to determine in a precise and comprehensive way competitive ramifications for recently introduced innovations of various types. The recognition becomes susceptible to flaws as the assessment involves forecasts and estimation, which can be easily confounded due to inability to foresee and account for all possible developments in technology, market conditions, and institutional arrangements (de Weck, Eckert & Clarkson, 2007). Existing studies confirm that industry peculiarities emerge in due course of its development. Hence, as pointed by Klepper & Simons (2005) it might not be an appropriate stand to try “to attribute shakeouts to any one stream of technological developments.” Thus, taking into account that the task of identifying the transition period of the industry life cycle is characterized by a high level of uncertainty, its performance should be based on a very cautious recognition of industry specificity beforehand.

*Proposition 1: It is a set of correlated signals rather than a single indicator that informs about an ongoing transition in the industry life cycle.*

### 3. Strategic opportunities and strategic responses

The transition period in the industry life cycle generates both strategic threats and opportunities for capturing value by incumbents as well as new entrants. A strategic attempt to effectively exploit changes in the environment need to be supported by inevitable modifications in deployed patterns of action. Actions undertaken by companies during that period shape a new competitive landscape with shifted or completely rearranged areas of market dominance. This competition on product and factor markets determines “the slice of the pie one gets to keep” (Afuah, 2014, p. 156). Given that the extant management literature underlines the fact that the logic of value distribution may or may not follow the rules governing the value creation process (Najda-Janoszka, 2016a; Brandenburger & Nalebuff, 1996), introduced lines of strategic maneuvering aimed at capturing and retaining extracted value streams should not be analyzed in terms of extrapolation of activities performed within the value creation process (Pitelis, 2009). Value appropriation requires completely different kinds of knowledge and capabilities developed across organizational functions (Fischer, 2011; Pitelis, 2009). Value capture involves a multilevel, complex pattern of actions that extend far beyond the single point of transaction (Coff, 2010). Hence, firms facing industry-transformational pressures toward change they need to respond by altering or introducing new ways for receiving, protecting, and retaining value i.e., extend, modify, retrench, or cease utilized compositions of isolation mechanisms<sup>2</sup> (Katkalo, Pitelis & Teece, 2010; Najda-Janoszka, 2016b). Such line of reasoning complies with the dynamic capability-based approach to value appropriation initially proposed by Coff (2010) and further developed by Najda-Janoszka (2016a, 2016b). Understanding value appropriation as a process involving complex action patterns, which can be a subject to reconfiguration due to environmental triggers, provides a proper departure point for exploring linkages between industry transformation signals and firm’s strategic response regarding value capture practices.

Strategic options for companies have been discussed depending on the type of the signals being identified. A vast majority of works refer to the emergence of a dominant design while elaborating on the issue of strategic repercussions of industry evolution from an early to a mature stage. It has been argued that a dominant design shifts the competitive dynamics by rearranging innovative efforts along already developed, predetermined main patterns and leaving the space for improvements at the peripheries/components of the leading architecture (Christensen, et al., 1998).

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2 Tangible and/or intangible barriers preventing replication of a particular behavior of a given firm (Rumelt, 1984)

The emergence of a dominant design accelerates industry exits of unsuccessful innovators providing alternative solutions or those failing to expand cost-efficient production scale along the emergent product architecture (Suarez, 2004). Hence, the strategic task involves detecting early signals indicating potential convergence toward architectural standardization. Observed tendencies toward certain regularities in component types, interfaces, arrangements that span across leading competitors might form a pattern for the development of a dominant design (Christensen, et al., 1998). The extant literature confirms that the emergence of a dominant design is not a discrete event but a process that evolves over the years (Anderson & Tushman, 1990; Baum, Korn & Kotha, 1995; Christensen et al., 1998; Murman & Frenken, 2006). During that process, incumbent firms, as well as new entrants, encounter a window of strategic opportunity to capture value by enforcing own solution as a dominant product architecture, imitating emerging architectural propositions, conforming to an emerging standard early enough to pre-empt scarce resources and capitalize on a growing market acceptance, or repositioning to a distant niche with sufficient residual demand (Suarez, 2004; Srinivasan et al., 2006; Van de Kaa, 2011; Argyres et al., 2015). However, considering strategic maneuvering during the transition period in the industry life cycle; it is important to highlight that it has been observed that dominant designs have not emerged in all product categories (e.g., video game consoles). Thus, despite expectations, some markets may not coalesce around one compromised dominant design. It brings in another essential conclusion drawn from empirical investigations that it is not necessarily a technological excellence that drives the emergence of a dominant product architecture (Tushman & Rosenkopf, 1992; Murman & Frenken, 2006; Suarez, 2005). Hence, the analysis of technological forces in the environment should not overtake the discussion centered around strategic management and managerial decision making (Argyres et al., 2015).

The exploration of the transition period in the industry life cycle, from the strategic management perspective, has provided useful and illuminating insights into the conditions affecting the response aimed at strengthening and protecting value streams in the competitive landscape of an industry. A study of Argyres et al. (2015) investigated strategic repositions introduced by the innovation shock, i.e., “introduction of a pioneering new product design by a single firm, the demand for which surges in an unanticipated way” (pp. 216-217). According to authors, a dominant design is an endogenous outcome of the innovation shock. Strategic maneuvering observed after the innovation shock tends to gravitate towards “an architectural similarity of products within each industry segment” (p. 221).

Therefore, early signals of industry transition, strategic reshuffling can be identified in a considerable time before any product/technology convergence initiatives. The time duration depends on the comparative costs of adjustments of firms operating in a particular industry, which in turn is determined by internal resources and capabilities, internal organization structure and incentives, relationships with external parties. Provided insights shift the accent from participating in convergence process toward strategic positioning (imitating, repositioning, exiting, entering) right after the arrival of the innovation shock that precedes standardization initiatives.

Other studies building on the premise that a dominant design may not necessarily emerge in each industry discuss factors that can facilitate the probability and the time of a dominant design emergence, and thus shape the scope for decision making (Srinivasan et al., 2006; de Vries et al., 2011). First of those factors is the appropriability regime reflecting the extent to which innovators can be protected from imitators and encompassing the nature of the core knowledge underlying the innovation and the institutional protection of the intellectual property (Teece, 1986). According to Teece (1986) who coined the term, a tight appropriation regime, although a quite rare phenomenon, is the most desirable one, because it provides sufficient conditions for capturing at least some proportion of the value generated by innovation. On the other hand, Srinivasan et al. (2006) and de Vries et al. (2011) argue that it hampers the emergence of a dominant design, as it supports the development of localized monopolies. Thus, it suggests that a strategic attempt to enforce own solution to become an industry-wide standard complies more with a weak appropriability regime, which enables knowledge sharing and industry-wide learning effects. Such conclusion can be related to the observed phenomenon of know-how externalization under the open innovation paradigm (Chesbrough, 2006). Considering the problem of value capture, it is important to emphasize that the open innovation model does not imply externalizing all the assets. Instead, a given firm needs to develop a coherent strategy for protecting and sharing its proprietary components. Such a strategy can be based on a concept of a modular system of knowledge introduced by Baldwin & Henkel (2015).

Undoubtedly, capturing value in a weak appropriability regime is quite difficult due to imitation practices (Najda-Janoszka, 2012) or a lack of contractual definition of compensation for releasing knowledge under the open innovation paradigm (Najda-Janoszka, 2016a; Najda-Janoszka, 2016c). But in case of a successful promotion of developed standard, a firm may enhance its strategic position to appropriate most of the created value.

However, in order to achieve that it has to account for the influence of the second factor, the network effects, defined as dependence of a customer's utility from a product on the number of other users (direct network effects) and/or



availability of complementary products (indirect network effects) (de Vries et al., 2011). As pointed already by Teece (1986) when the underlying technology is inherently easy to replicate and legal protection mechanisms are ineffective or purposively not reached for (open innovation), then the opportunity for capturing at least a positive fraction of created value depends on the access to complementary assets. Moreover, due to substantial, irreversible investments that raise the risks for the engaged party, the control over complementary assets gains in importance with more asset specialization. In weak appropriability regimes owners of co/specialized complementary assets are expected to capture the lion's share of the value generated by the innovation (Ceccagnoli & Rothaermel, 2008). While investigating the relationship between services and evolutionary patterns in manufacturing industries Cusumano et al. (2015) observed that the variation in competitive dynamics along with the industry life span, encourages investments in a specific kind of services at different times. During the stage of ferment developing "adopting services," which significantly extend the product functionality (e.g., customization), may help boost a new market by lowering the level of product/technology uncertainty. A shift to transitional period, as products become more reliable, better understood and less variable allowing for a more standard implementation, quite clearly favors investments in "smoothing services" that enhance exchange between a focal firm and its customers without altering the product functionality, e.g., financing, warranty and insurance offering, maintenance, technical support. Hence, authors claim that the way firms combine services with their products may facilitate establishment of a dominant design, e.g., services as product subsidy in the presence of network effects (Cusumano et al., 2015). Nevertheless, it is worth noting that although most studies confirm that strong network effects positively affect the probability and the time of emergence of a dominant design (Srinivasan et al., 2006), there are some investigations that point at the "excess inertia," driven by a "wait and see" attitude of customers and providers of complementary goods, which may substantially delay the emergence of a dominant design (e.g. Gupta, Jain & Sawhney, 1999).

According to reviewed theoretical discussions and empirical investigations, value capture practices of firms operating during the transition period of the industry life cycle reach beyond the narrow, protective approach focused on raising and maintaining strong barriers to imitation. Some studies confirm that it is the strategic approach that gains importance. Firms tend to use those protection mechanisms as means for direct creation of value and as strategic tools that enable competitive position enhancement.

*Proposition 2: As industry undergoes transformation from an early to a mature stage of development, the value appropriation process is characterized by a more intensive utilization of the strategic rather than protective function of isolation mechanisms.*

## 4. Conclusions

In search for a better understanding of the competitive dynamics and shifts in value capturing action patterns during the transition stage of the industry life cycle, this study brings in two important proposals guiding further theoretical and empirical research. The first one should enhance evaluation of the industry's current stage of development by allowing for anchoring various markers of industry-transition. From the strategic management perspective, it is of great importance to move forward from retrospective analyses to a comprehensive assessment of ongoing transformational processes. Hence, deciphering reshuffles in competitive conditions along the evolutionary trajectory of an industry should enhance the understanding of the dynamics process. The second proposal emphasizes the processual nature of value appropriation and thus allowing for longitudinal studies focused on evaluating decision patterns formed by strategic responses to industry-transition triggers. A deep insight into those decision patterns would shed more light on the problem of path dependency, inertia experienced by firms at subsequent stages of industry evolution when a strategic repositioning could be a viable option for value capture.

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# PATENT ACTIVITY OF COMPANIES LOCATED IN WROCLAW TECHNOLOGY PARK

**Małgorzata Niklewicz-Pijaczyńska<sup>1</sup>**

## **Abstract**

*The article addresses the issue of patent activity of enterprises concentrated in the structure of technology park. The purpose of this publication was to determine whether the status of a technology park tenant activates the inventive activity of enterprises and the degree of internal absorption of knowledge, which is measured by patent applications filed with the Polish Patent Office. The scope of the research covered the Wrocław Technology Park and its business area. The subject scope covered patent applications of one hundred and sixty companies from the Wrocław Technology Park and for quantitative and qualitative analysis of inventive activity, they used methods characteristic for the so-called patent statistics. Conclusions from the research indicate that in the analyzed period inventive activity of enterprises located in the Wrocław Technology Park had an individual character and was based primarily on external sources, not on knowledge sources from the network.*

**Keywords:** *patents, technology park, innovations, inventors, industrial property rights.*

## **1. Introduction**

Creating innovations, especially breakthrough innovations (inventions), is an effort that only the most determined organizations are successful. This is a consequence of both, market imperfections (existence of monopoly rent, information asymmetry, broadly understood technological divergence) and the existence of different administrative, legal, environmental, technological, or economic barriers to the environment of the entity. In this context, the support of innovative activity by specialized institutions may prove to be crucial, although empirical research does not provide conclusive proof of the involvement of public institutions in this area. For example, the hypothesis that the consequences of substitutability or complementarity of public and private expenditure (Velho & Saenz, 2002) for the innovation process remain unresolved, in practice, they perform different roles. They may, for example,

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engage directly as co-creators of developed innovations or patented inventions and contribute to technological convergence. They may also focus on creating the right environment both for stimulating the innovative activity itself (including inventive activity) and for implementing the triad of invention-protection-commercialization.

The other aspect is to decide whether the new solution if it meets the requirements of substantive and formal requirements, will be reported to the Patent Office for exclusivity (patented) or will go to market without a legal procedure. One of the institutions that assume both of these roles should be the technology park, the infrastructure superstructure involved in the subject's innovation process. Under the Polish legislation, its essence is defined as a set of separated real estate, together with technical infrastructure, created to transfer knowledge and technology between scientific units and entrepreneurs, which offer entrepreneurs modern technologies, broadly understood consulting services, technology transfer and commercialization of the results of their research. Technological park, in addition to clearly outlined incubation function, is often in the role of the subject enabling the enterprise to move to a new phase called techno-entrepreneurship (Bulsara, Gandhi & Porey, 2010). Created to promote innovation, stimulate regional economic growth and create jobs not only for practitioners but also for academics (Edgiust, 2002), the technology park stimulates and manages the flow of specialist knowledge, which otherwise in many cases would be purely individual. This happens, among other things as a result of geographical concentration leading to the strengthening of the so-called learning-by-doing and learning-by-using effects, conditioned by the exchange of informal knowledge. The belief that the agglomeration of economic and scientific activity leads to the generation of innovation is clearly present in the literature of the subject (Park, Lee & Kim, 2001). In this context, the technology park is also an example of an attempt at a practical solution to the widely discussed problem of insufficient cooperation between entrepreneurship and research centers.

The purpose of this paper is to determine whether the status of a technology park tenant influences the development of breakthrough innovations (inventions) by the company-centric structures and the absorption of knowledge made available through the knowledge network. For its implementation own research based on the patent statistics method was conducted. The UPRP database containing the technical documentation of inventions submitted for exclusive protection was used as the primary source. To investigate the sources of innovation, however, the method of analyzing patent citations was used (Niklewicz-Pijaczyńska & Wachowska, 2015). The scope of the subject covered the patent applications of one hundred and sixty-two tenants of Wrocław Technology Park, since receiving the status of



technology park tenant until now (1998-2017). This type of research using the above tools was not conducted in Polish conditions, although there are studies known to compare innovative activity of companies operating within and outside the park, using various estimation methods. Methodologies based on patent data contain limitations (Klincewicz 2008, Niklewicz-Pijaczyńska, 2015), first of all, they do not allow to measure the actual size of innovative activity, which encompasses not only breakthrough research and development (inventions) but also modifying solutions already implemented in economic practice.

In addition, a significant portion of ideas, which are essentially the indicator of innovative activity, will never be made public because of functioning as enterprise know-how. However, the qualitative and quantitative analysis of patent citations and documentation of inventions submitted for protection is a universally accepted tool that approximates the degree and sources of diffusion of technical knowledge and the level of involvement of the parties in the process of developing and commercializing new solutions. Undoubtedly, limitation of the research is analyzing only one technology park, but because such institutions are very differentiated, for this pilot study, it is assumed that the unit concentration will be sufficient to determine initial dependencies. The hypothesis was that the status of technology park tenant influences the patent activity of enterprises and the level of knowledge utilization, which was made available within the knowledge structure.

## **2. The importance of technology parks for the innovation process**

Technological parks, derived from the American industrial and scientific concentration, play an important role in economic policy today, focusing on increasing the competitiveness based on research and development efforts and the implementation of its effects. They accomplish two basic goals. The first is to catalyze regional economic development. Second, being an intermediary in communication between industry and universities. Technological parks allow concentration of companies strongly oriented towards creation and commercialization of innovations (cluster function). They cause in this way the so-called synergy effect - crucial for structures in which intangible assets play a vital role in the network-based management process (Westlund, 2008). Significant results of comparative research on the innovative effectiveness of Swedish companies operating within and outside the park were presented by Lindelof and Lofsten (2001, 2002, 2002a).

Siegel, Westhead, and Wright (2003) made analogous observations for the United Kingdom, using the stochastic barrier estimation method to compare the scientific productivity of firms located in and outside park structures

(i.e., analyzing deviations from the potential optimum margin specified by the company's best performance). They noted that the location inside the park is important not only for the appearance of new goods/services but also for the increase in the number of patents received. The indication of a small advantage of park companies also emerged as a result of research conducted in Italy (Colombo & Delmastro, 2002). In this case, authors strongly point to the high probability that, if it were not for the park, many of the companies would never have emerged, proving its strong impact on entrepreneurship growth, employment growth, and turnover of the selected companies. On the other hand, Fukugawa (2006), unambiguously indicates a positive correlation between presence in the park and increase in effectiveness of the subjects' research, but stipulates that results may be falsified by initial selection of companies as to the park, already in the seed, are invited entities strongly technologically oriented. In a broader context, the functioning of technology parks can be linked to the idea of social capital, for the sake of management science developed inter alia by Nahapiet and Ghoshal (1998) and Blyler and Coff (2003). In terms of Nahapiet and Ghoshal, social capital is the resultant of real and potential internal resources made available through a network of relationships and assets that can be used by it. In such a defined notion of social capital, technological parks, fostering mutual trust based on close, personalized relationships, and thereby increasing the dynamics of information exchange, fit perfectly (Edwards & Jones, 2008). By providing the necessary, high-quality organizational infrastructure, including legal infrastructure, access to knowledge diffusion and technology transfer, internationalization of activities (Tsai & Ghoshal, 1998), and the stimulation of cooperation between businesses, enterprises, and academic centers, play a key role in stimulating the inventive regional activity of entities focused on them. Most of these entities alone do not have sufficient strength to gain an advantage in the high technology sectors (Yli-Renko, Autio & Sapienza, 2001), especially since they are often companies in the early stages of development. In this context, parks act as incubators. They help to neutralize market imperfections, enable diversification of external sources of finance, facilitate access to the necessary resources, including specialist knowledge and skills (Colombo et al., 2002). In addition, they largely eliminate the lack of experience in organization and business management (Monck, Porter, Quintas, Storey & Wyncarczyk, 1998). In the literature of the subject, the importance of technology parks for the diffusion of knowledge is strongly emphasized (Link & Scott, 2007), including university knowledge (Hansson, Husted & Vestergaard, 2005; Barney 1991, Yli-Renko et al., 2001; Phillimore, 1999) and strong interactions between institutions, universities, and industry (Etzkowitz, 2017). Their positive externalities, among others, are a consequence of geographical proximity

(Jafe, Trajtenberg & Henderson, 1993; Audretsch & Feldman, 1996). The question remains, however, about the overall impact of parks on stimulating regional economic growth (Jimenez-Moreno, Martinez-Canas, Ruiz-Palomino, Saez-Martinez, 2013; Appold, 2004). In the literature of the subject is also asked a question what the real net effect is, i.e., how much the benefits generated by the establishment of the park compensate for the expenditure incurred in connection with its functioning, and used statistical tools force the assumption that the total effect of the technology park only focuses on companies concentrated within it. The unresolved problem is also a selection of technology park efficiency metrics. Proposed indicators - turnover volume, investment scale, the number of patents obtained, the number of innovations developed, ability to attract further start-ups (Condom Vilf & Llach Pagés, 2008, p. 145) – do not meet the condition of the most authoritative, holistic approach. Following the example of social capital (Nahapiet & Ghoshal 1998), technology parks can also create or stimulate the creation of new intangible capital, including industrial property rights in the form of new technological solutions (inventions), trademarks or utility models. This dualism - creation and stimulation of creation - is not accidental for this publication. So, the question arises whether parks as non-profit institutions are merely a backdrop or perhaps an active contributor to their innovation area.

### **3. Patent activity of Wroclaw Technology Park and enterprises functioning in its structures - results of own research**

The analysis of patent applications registered in the Polish Patent Office databases (including both national and international applications) has found that only 16 out of 162 park tenants have been found to be active during the period considered, i.e., since 1998 (date of establishment WPT) until 2017. This means that this type of activity showed only 9% of the total number of selected entities. Enterprises showing a commitment to the protection of solutions developed by themselves have reported a total of 65 patent applications (Table 1).

However, after eliminating applications for which the refusal was issued, the proceedings were discontinued or expired and those which, due to a failure to validate (translation into Polish) were declared invalid, out of the total number of 65 only 40 resulted in the envisaged legal effect of granting the exclusive rights. This means that the remaining ones did not meet the formal requirements (e.g., they did not pay the applicable fee) or substantive (the solution was not technical or did not meet the requirements of inventive level).

**Table 1.** Number of effective patent applications of enterprises from the Wrocław Technology Park reported in the years 1998-2017

Zespół Elektrociepłowni Wrocławskich Kogeneracja	Apeiron Synthesis	Stem Cells Spin	Wrocław Technology Park
19	8	7	6
Technology Transfer Agency Techtra	Kriosystem	Technox	Lediko Walendowski i Wilanowski
6	4	3	2
Prometgas.pl	Silesian Catalysts	Lipid Systems	Mitsubishi Electric Europe B.V.
2	2	1	1
Nestmedic	Embedded System Design Center Łukasz Konarski	Eurol Innovative Technology Solutions	FLC Pharma
1	1	1	1

**Source:** own elaboration based on Polish Patent Office data.

Four of included, active inventing companies were created before the date of establishment of the Park. However, what is important is that only one of these companies - Zespół Elektrociepłowni Wrocławskich Kogeneracja - had patent applications related to the period before the foundation of Wrocław Technology Park. This means that most inventive companies are unlikely to have reached the institutional stage of protecting their solutions, and some would never have been created without the support of the WPT.

Six times Park is a creator / co-creator of the proposed solution, thus contributing to their real development. Twelve of the patent applications were created as a result of the cooperation of separate entities. Seven of them are the result of the cooperation of companies operating in Wrocław Technology Park, three were created with the participation of companies outside the Park, and two came from the cooperation of both entities from and outside the Park. Among the involved entities from the Park are the Wrocław University of Environmental and Life Sciences, Wrocław Technology Park, Technology Transfer Agency, and Tetra company. Entities - co-creators outside the Park were quite geographically dispersed because they came from Kedzierzyn Koźle, Otwock, Czestochowa, Gorzkowice, and Sosnowiec. With such a small research sample, which is a consequence of sporadic cooperation, it is impossible to confirm or reject the thesis about the influence of geographical proximity on inventive activity, and it may also prove to be only partially effective. Similar results give rise to use of the patent citation analysis method,

which reflects the impact of geographical proximity with respect on the external to the source of innovation, the process of innovation. This method involves analyzing references in the patent to other similar solutions that authors have used, or which have inspired them to develop their invention. It allows determining the sources and directions of the inflow of technical and technological knowledge and the extent of its absorption. The analysis of patent citations of active inventors from Wrocław Technology Park shows that they derive their knowledge primarily from external sources. Mostly, these are solutions of national subjects - forty-two citations. References to foreign companies' accomplishments have only occurred thirteen times. It sometimes happens that in the patent documentation is cited literature of the subject, in this context entities more often refer to foreign publications than national. However, what is the most important, only four times cited were solutions of entities operating in Wrocław Technology Park or its associated academic centers. In the latter context, each case was individual, as co-creator appeared Wrocław University of Environmental and Life Sciences, University of Wrocław, the academic staff of the Wrocław University of Technology and a team of researchers from the University of Wrocław.

#### **4. Conclusions**

Technology parks that fit in with the general idea of creating eco-systems of innovation and conditioning the accumulation of knowledge through innovation are set up specific tasks. They are designed to create conditions and stimulate innovations, support development of local knowledge-based entrepreneurship, strengthen its competitiveness and increase productivity (Alaci, 2004). By collaboration of practice and science, make possible evaluation of academic thought into a real, market-enhanced product or service. The results of the research show that companies concentrated in the structure of the Wrocław Technology Park use their opportunities to undertake an inventive activity, but they are primarily individualistic. The measurable level of activity seems to be low, only 9% of companies as a result of their R & D work have achieved outcome suitable for patent verification. Also, the effect of proximity seems to be negligible, only 16% of companies active in inventions, undertake any cooperation in the field of research and development.

What is important, as a co-creator of reported inventions, is the Wrocław Technology Park itself, which shows that it is also involved in the process of creating new solutions. Research results may be the consequence of attachment to a traditional, closed model of innovation, little interest in the institutional protection of solutions developed, or concentration on imitation innovations rather than inventions that overtake the market.

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# VALUE CREATION IN PROCESSES - SECTOR APPROACH

**Natalia Potoczek<sup>1</sup> and Krzysztof Głuc<sup>2</sup>**

## **Abstract**

*The article presents the analysis of a contemporary approach to value creation in processes. The author compares traditional and modern approach to the value chain in an enterprise. The analysis uses examples from selected sectors of economy included in models created for benchmarking purposes, developed for many years by American Productivity and Quality Center. Special attention was paid to sector traditionally considered public or those dominated by public entities, such as Education, Healthcare Providers, City Government, or Utilities. The key reference point for the conducted analyses is more than 30 years old concept of the value chain developed by Porter, which brought a new perspective of creating organizational conditions for creating value for a customer. The contemporary structure of enterprise processes must consider new environmental conditions, new relations and interactions taking place in the environment. The awareness and competencies related to value creation in processes are confirmed not only by commercial but also non-profit organizations. The article aims to identify the contemporary approach to value creation in processes, allowing for the sector specificity.*

**Keywords:** *value creation, process, benchmarking, sector, process orientation.*

## **1. Introduction**

Providing value to clients, traditionally treated as a source of competitive advantages, has now become a key element in the mission of each non-profit and for-profit organization. The contemporary management practices related to shaping the value chain can be easily discernible both in business and in public services. Regardless of whether the activity is triggered by the desire to win competitive edge in business or politics, it is the value provided to clients which determine their satisfaction and the choices they make. Porter (2006), considered

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the author of the concept of a value chain, noticed that the source of competitive advantages is the value which the company can generate for its clients. Such value can be manifested in lower than competitors' prices of comparable products and services, or unique benefits, whose value significantly exceeds the higher price clients must pay for the product. Porter (2006, p.18) claimed that the value provided to clients is generated in a series of activities he called a value chain.

Porter's value chain is a general mental construction enabling us to consider from the strategic point of view essential activities of the company aimed at generating value for the client, but also enabling us to assess the costs of such activities and their importance for winning competitive advantage. The value chain concept also helps us understand why one product or service may push others out of the market (Porter, 2006, p.22). The value for the client, as perceived by Porter, is treated in marketing categories, since attention is paid to optimizing benefits for the client in return for the price paid. The contemporary approach to value chain puts greater emphasis on the cost aspect. Strong focus on improving the value chain helps optimize costs incurred in processes. A correctly configured value chain is to provide value to clients and the company itself. In a situation where it is increasingly difficult to increase revenues, more attention than ever is paid to lowering production costs and the whole supporting activity. The discussions on strategic planning, initiated by academic circles, are pointless, especially with ever-shortening production cycles (FitzRoy, Hulbert & O'Shannassy, 2016). In spite of the views voiced in various communities, especially managerial ones, expressing the necessity to move away from strategic planning to expand the role of actions, the business practice shows that activities aimed at creating a vision and a strategy are necessary, perhaps more than ever before. A flagship example of action thinking and acting are Peters' concepts (2003), who claims that excessive concentration on minimizing deficits does not improve the company competitiveness. In his publications from the turn of the 20th and 21st centuries, he recommended playing with what we have, determining everything ad hoc. He treated management as an art of paradox, balancing on the edge, not the persistent accomplishment of goals (Peters, 2003). Such approach fits in with the concepts of financial value provided for clients, which now, at the end of the 2nd decade of 21st century, seems to be significantly narrowing the perspective of clients' needs. The contemporary process approach in management tends to notice the growing need for security and predictability of partners' behavior in various relations and socio-economic configurations. In the next chapters of this article, the author confronts the classic approach to values and value chain with the new one. An attempt will be made at identifying a new structure of the value chain and the role of strategic activity based on benchmarking models published by APQC for particular sectors.

## 2. Value creation in processes

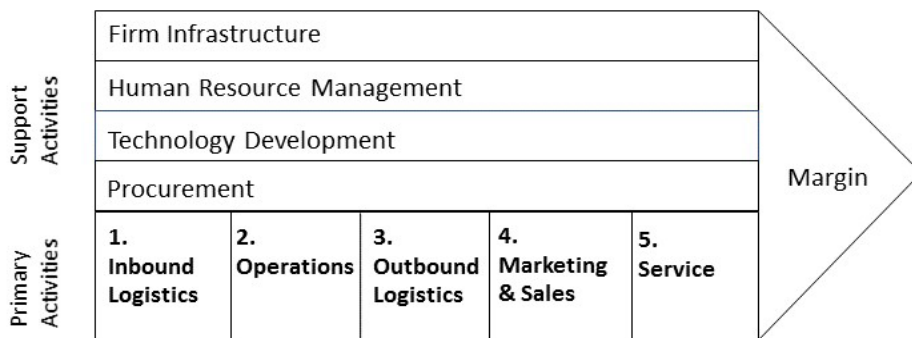
In order to understand the mechanism of value creation in processes, we first need to refer to the concept of value. In management science, we usually refer to the marketing concept of value. According to Porter, value for the client is equal to the benefits received by the client for the price of the product or service paid by him (2006). Scientists commonly believe that the value for the client constitutes all benefits the client can obtain by purchasing and using the product or service. Going further, according to Kotler (2005), the value for the client is determined by the difference between the predicted evaluation of all benefits a client can obtain, and the expenditure to be made to be able to consume the benefits. Client's expenditure should be understood as money, time and risk related to the choice of the brand or offer, or individual effort related to the purchase. The client, as every market entity, is driven by economic calculation, aims at maximizing benefits and minimizing costs.

The contemporary market competition, as a result, aims at increasing the product value; therefore, it is necessary to research clients' needs. One should mention here the concept of product value in use, developed by Guaspari and Crom (1993), which expresses the relation of what the client received to how much it cost them. The client does not receive a physical product or service, but also the benefits associated with the transaction, such as comfort, conflict-free cooperation, the feeling of pride, trust, satisfaction. Costs cover not only the amount of money to be paid for the product or service but also intangible costs, such as frustration, concern, loss of time, and discomfort. Staying in the market is determined by the minimal value in use of the product that an enterprise can provide the client. Gaining competitive advantages is related to developing value in use while maintaining the price acceptable for clients (Adair & Murray, 2002). Creating value for clients is determined by many factors, which, along with the changing expectations of clients, are subject to constant research. Doyle (2003, p.85) identified and formulated three principles: 1) a client chooses a provider who, in his opinion, offers the biggest value, 2) a client is motivated not only by the product but also by the possibility to satisfy the need or to solve the problem, 3) it is more profitable to build long-term relations than to focus on one-off transactions.

Understanding the value perceived by the customer can be a sustainable source of competitive advantage in today's competitive environment. Identifying the value proposition to target customers and specific market segments are one of the company's major strategic challenges. Companies now compete with the values offered to customers, and more specifically, the benefits to the customer.

Prahalad and Ramaswamy (2005, pp. 65-67) argue that the future of competition is completely related to a new approach to customer value creation based on customer value creation.

The awareness of the significance of value and clients' expectations invariably pose challenges to the enterprise structure. In the classical approach, process management was oriented at creating conditions for generating value for clients. This approach is visible in the structure of the value chain proposed at the end of the 20th century. First, we should refer to the author of the most recognizable concept of value chain – Porter – not to argue with him but to show the direction in which strategic analysis originating in the 1980s developed. The author's intention was that the value chain should be a strategic analysis tool, with one main goal, namely to analyze and shape the competitive advantage of an enterprise, not only in the product area but in all areas in which it functions. Porter's value chain contains a configuration of primary activities, directly related to creating a product/service and activities supporting the main activity of the enterprise. These activities were singled out by considering the value creation perspective. In assumption, the value chain shows through which activities we obtain a value for clients. Figure 1 presents the concept of the value chain which includes activities directly related to creating the product and providing it to the client. Support activities in the figure and placed above primary activities, and they denote indirectly, but necessary share in creating value for clients. The accomplishment of primary activities would be impossible without competencies, infrastructure and various activities related to financial, personal, technical, technological, or legal service.



**Figure 1.** Value chain

Source: Porter (2006, p. 65).

The value chain initiated by Porter in the strategic analysis is subject to continuous modifications. Contemporary concepts of the value chain are

mostly developed in the process orientation trend in company management. A high level of generalization and ordering of activities in Porter's value chain is today expressed in processes. Just like the activities listed by Porter, processes are classified as having a direct or indirect share in creating value for clients. In management practice, the way in which processes are grouped is an individual solution for every organization. The scope of activities and clients mostly determine which processes will be implemented. Their configuration, however, will be determined by numerous factors, such as the subject of activity, legal form, ownership structure and most of all, competencies of the management and staff.

Companies have gained a lot of experience in identifying and classifying processes. Many publications contain proposals in this respect, some organizations even try to develop standards that could be used by companies for comparative purposes or even as models. One of the best-known process classifications is the PCF model (Process Classification Framework<sup>SM</sup>) developed by APQC association PQC (American Productivity and Quality Center). The PCF model is an effect of experience gathered for over 20 years by APQC member companies in identifying and managing business processes. The open base of benchmarking standards has collected and ordered over 1000 operational and management processes ([www.apqc.org/pcf](http://www.apqc.org/pcf)). The PCF project has been run since 1992, with over 80 organizations from various sectors involved in it. The latest version of the model is presented on APQC website (Figure 2) and is a universal proposal (Cross-Industry - Version 7.0.5). However, the recent experience shows that there are various sector conditions: forms of activity, relations with clients or modern technologies, which determine the structure of the value chain.

1.0 Develop Vision and Strategy	2.0 Develop and Manage Products and Services	3.0 Market and Sell Products and Services	4.0 Deliver Physical Products	5.0 Deliver Services	6.0 Manage Customer Service
7.0 Develop and Manage Human Capital					
8.0 Manage Information Technology (IT)					
9.0 Manage Financial Resources					
10.0 Acquire, Construct, and Manage Assets					
11.0 Manage Enterprise Risk, Compliance, Remediation, and Resiliency					
12.0 Manage External Relationships					
13.0 Develop and Manage Business Capabilities					

**Figure 2.** Process Classification Framework (PCF) - Cross-Industry - Version 7.0.5

Source: <https://www.apqc.org/knowledge-base/documents/apqc-process-classification-framework-pcf-cross-industry-excel-version-705> (2017.05.20)

The universal model of the value chain developed by APQC for benchmarking purposes (Figure 2) presents thirteen groups of processes, including six groups of operational (primary) processes and seven groups of support and management processes. Support and management processes have been gathered in the group of services, and the name aptly reflects their nature and role in an organization. Management and support processes provide services necessary to implement operational processes in an organization. The clients of management and support processes are all members of an organization, who are treated as internal clients.

The PCF model presents 13 categories of processes, classified in 5 levels. The five-degree structure covers: Category, Process Group, Process, Activity, Task and is a consequence of the value chain decomposition. The complex structure of the contemporary value chain shows not only the level of specificity or the way in which activities are organized in an enterprise but also aimed at value creation. It shows much more. Firstly, we should pay attention to the scope and nature of processes. The structure of primary processes over the past thirty years has evolved into the chain of projection, manufacturing, and service activities. The primary processes now include developing vision and strategy. The stages of designing an enterprise, developing its vision and strategy of activities, are created via expanded processes of obtaining and processing data, developed, multi-dimensional business analyses which constitute a foundation for taking management decisions.

The processes of developing and managing products and services are often performed by complex teams conducting research activities concerning provided products and services. At present, each large company has its Research and Development Department. Seeking innovative solutions has become a necessity in gaining competitive advantage.

Significantly more attention is paid to clients at the stage of delivering products and services and after-sale service (processes five and six in Figure 2). This means that the set of values provided for the clients has considerably expanded over the past years. Referring to the value in use of the product, it is not only the product that is of value to the client but also the terms of its purchase, as well as the delivery by the producer or potential intermediaries in the delivery chain.

Value creation for the client, though indirect, also takes place in support processes. While Porter listed four groups of activities, associated with support functions by many authors, the universal PCF model contains seven. The scope of support and securing activities has expanded significantly. Long-term prospect of company activity requires enterprises to run many complex processes stabilizing its activity. The first process listed in the group of support processes is the process of developing and managing human capital. Expanded

HR processes not only secure human resources for the implementation of all processes but are also aimed at creating and providing value to staff. The importance of values provided for internal clients was also emphasized by Porter (1985) when he defined his value chain. Depending on the size of an organization, the level and structure of employment, the scope, and range of activities, the decomposition of Developing and Managing Human Capital process may point at the implementation of several tens or a few hundred of HR processes in one organization (Potoczek, 2016).

The development of Information Technology we have been observing since the 1990s and its influence on conducting business activity made it necessary to single out the Managing Information Technology (MIT) process from the group of activities referring to technology developed and used for production purposes. Information Technology now supports every activity in an organization, affects the level of activity standardization, the value provided to clients and value generated by the company by significantly reducing operational costs. Creating value for clients is now largely connected with the activity of asset management (Acquire, Construct, and Manage Assets). In fact, the nature of activity determines the directions of changes taking place in the processes related to creating infrastructure conditions. Processes related to servicing the possessed objects are supported or supplemented by processes of lease or rental.

While financial service and financial resources management in the Managing Financial Resources process have always been an integral part of support activity, further processes listed in the PCF model demonstrate increased the involvement of enterprises over the past two decades. Managing Enterprise Risk, Compliance, Remediation and Resiliency processes, reflect the progressing complexity of the environment in which an enterprise operates. This phenomenon concerns all sectors. One of the values provided for clients is security, related both to products and services and to terms of cooperation. Companies maintain credibility in many complex processes related to risk management, meeting sector standards, and various legal requirements, and, as a result, constant adjustment of the enterprise to the changing environment (Hatch, 2005, pp. 99-105).

Another process of the PCF model, Managing External Relationships, demonstrates the importance attached by contemporary enterprises to cooperation with external entities, such as owners, co-owners, shareholders, government, self-government, various institutions of public administration, consultants, and universities. Within the managing external relations process also public relations activities are performed. The last support process in the PCF model - Cross-Industry - Version 7.0.5 Developing and Managing Business Capabilities covers sub-processes and activities aimed at improving

business capabilities of an organization. Here one should mention process, program and project management, change management and knowledge management in an enterprise (<https://www.apqc.org/knowledge-base/documents/apqc-process-classification-framework-pcf-cross-industry-excel-version-705>).

### **3. Research approach and methodology**

The research aimed to identify differences in benchmarking models for sectors, which could constitute a basis for concluding concerning changes to the value chain.

The analysis of the changes taking place in the value chain in selected sectors was performed based on the models of operational and support processes developed by APQC. The classification frameworks of inter-sector processes were initially perceived as a taxonomy of business processes and common language, thanks to which APQC member organizations could measure their processes. The initial APQC project, covering 80 organizations, was widely popular due to the promotion of benchmarking in the United States and all over the world. Since its establishment in 1992, PCF has had most of its content updated. Such updates preserve the current approach demonstrated by companies all over the world to shape the value chain.

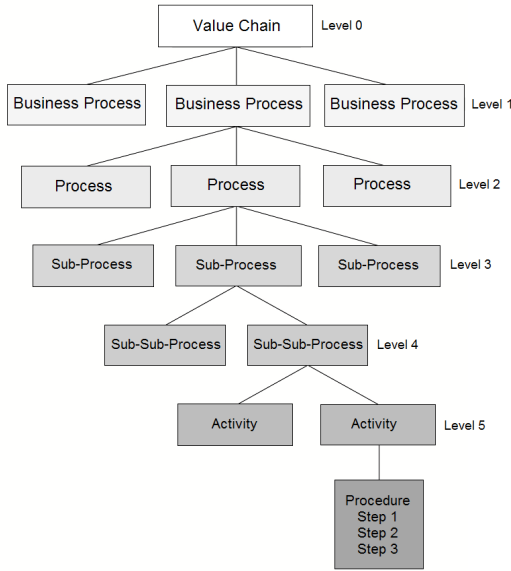
Since 2008 APQC and IBM has been cooperating in developing the inter-sector PCF and creating a series of sector classification frameworks for processes.

PCF is a universal tool supporting process management and productivity. By developing PCF, APQC helps organizations adapt to quickly changing the environment, build new and better ways of working or achieve successes in competitive markets. APQC concentrates on productivity, knowledge management, comparative tests, and quality improvement, cooperates with member organizations to determine the best practices and to discover effective methods of improvement. The association broadly popularizes research results and findings. Established in 1977, APQC is a non-governmental organization, operating on a non-profit basis all over the world in all sectors of business, education, and government. APQC is a noble laureate of MAKE awards in 2003 and 2004 in North America. The award was based on the research conducted by Teleos, European research company, and KNOW network.

Moreover, the analysis also used Harmon's methodology of decomposing the value chain (2007). Many publications devoted to BPM issues present the structure of processes in an organization as a multi-level system, where the first level is reserved for the main business processes, however, to determine their place or role in an organization, a zero level is often introduced.



Such approach is used by Harmon (2007, p. 81), where the zero level reflects the value chain created by business processes visible on the first level (Figure 3).



**Figure 3.** Hierarchical decomposition of the value chain

Source: Harmon (2007, s. 81).

Within each business process, we can go down to a few levels of sub-processes and finally to single tasks. A single task can be regulated by procedures including even more detailed instructions, even further steps of activities to be taken. The hierarchy of processes is related to the complexity of processes or the standardization level. If the company intends to improve processes in time for performing them or incurred costs, process identification will aim at  $n$  level, at which it will be possible to precisely determine the time needed to perform the task/activity and the costs incurred.

**Table 1.** Industry-Specific Process Classification Frameworks®

Aerospace and defense	Airline	Automotive
Banking	Broadcasting	City government
Consumer electronic	Consumer products	Downstream petroleum
Education	Health insurance payor	Health care provider
Insurance	Life science	Retail
Telecommunications	Upstream petroleum	Utilities

Source: <https://www.apqc.org/industry-specific-process-classification-frameworks>.

APQC so far has published models of the value chain for eighteen sectors (Table 1), presenting the specificity of certain processes, sub-processes, and tasks.

#### **4. Research results**

The analysis of benchmarking models allows us to state that creating value for the client starts with the processes of developing vision and strategy of an organization. At this stage decisions on future relations with clients are made. Strategic activities constitute an element of a market play, which, if it is to be successful, must be developed on the ground of well-analyzed opportunities and threats, as well as specifically identified resources and proper assessment of the potential of the company and its key competitors. The next link in the contemporary value chain covers processes related to research and development activities. Designing products and service is given more attention and financial resources. Creating value for clients is conducted in line with the identified needs and expectations of these clients. It is impossible to enjoy long-lasting successes without continuous improvement of products and services or without innovative presentation of the offer.

Of key significance for the value chain are manufacturing, supplying and logistic processes, marketing and sales processes and customer service processes. The analysis of models in particular sectors covered with APQC research allows us to state that the general structure of the chain in primary and support processes has been stable for years, whereas the sector specificity is included in the higher levels of the chain decomposition. Differences in the basic level of the value chain are particularly visible in public sectors, in many cases operating in monopoly conditions, with small business risk.

In cooperation with many organizations, APQC reveals sector specificity based on the universal PCF model. For example, in cooperation with IBM, PCF taxonomy for aviation and defense organizations is created. Similarly, PCF of airlines restructures inter-sector PCF taxonomy to consider the category of processes vital for the organization of airlines. The specificity of the Automotive sector expressed in the PCF model refers mainly to the planning of a new car portfolio, developing market strategies, determining business goals, strategies of acquiring, engineering and validating projects, prototyping, and testing. Other specific processes for the Automotive organization include brand management, planning sales, planning and monitoring production and inventory management, validation of quality and managing dealer relations.

The chain value in the banking sector remains largely unchanged, though it should be noticed that the banking sector belongs to those who were the fastest to absorb the new process approach in management, along with modern



City boards are responsible for coordinating activities of various institutions and legal entities; therefore, the last operational and primary process in the value chain: Engaging Constituents, is typical of this entity.

Another similar example of value creation in processes in the public sector is the education sector.

It must be remembered that the education offer is presented directly to pupils and students, though key decisions are also taken by their parents/guardians. In the value chain in the education center, special attention is paid to designing and developing the educational offer. The main products are the teaching programs and the conditions in which they are implemented, such as evaluation systems and various instructions (the second process if Figure 5). Designing and providing various services supporting pupils in the education process (process 3 in Figure 5) completes the education offer.

1.0 Develop District Vision and Strategy	2.0 Develop, Deliver, and Assess Curriculum, Assessment, and Instruction	3.0 Design and Deliver Student Support Services	4.0 Design and Manage Operations	5.0 Manage Student and Stakeholder Relationship and Engagement
	6.0 Develop and Manage Human Capital			
	7.0 Manage Information Technology (IT)			
	8.0 Manage Financial Resources			
	9.0 Acquire, Construct, and Manage Assets			
	10.0 Manage Enterprise Risk, Compliance, Remediation, and Resiliency			
	11.0 Manage External Relationships			
	12.0 Develop and Manage Business Capabilities			

**Figure 5.** Process Classification Framework (PCF) - Education

Source: <https://www.apqc.org/industry-specific-process-classification-frameworks>.

It is worth emphasizing the specificity of the fifth and last operational process, namely managing relations and engagement of students and other stakeholders, which occupies the place of customer service in a classic model. Support process in the model is kept in line with the structure that is universal for all sectors.

Another important example of differentiating the specific activity included in processes and, most of all, providing benefits to clients is the Utility Assets sector. Effective benchmarking requires common definitions of processes. For organizations to be able to compare processes, they must receive detailed reference points and indicators. Inter-sector models are valuable. However, APQC assumes that in some sectors it is more difficult to apply patterns and the nuances in processes may appear at different stages. The Utility sector was



Upstream Petroleum and Downstream Petroleum, with the structure of the value chain being the same as in the universal model. The Upstream Petroleum PCF model is tailored to determining processes applied in organizations all over the world.

The petroleum industry is represented by two types of processes: Upstream and Downstream. Upstream Petroleum PCF refers to excavation and geodesy processes and those supporting excavation and obtaining carbohydrates. Further value flow for the Downstream Petroleum sector is a new value chain, within which the sale and distribution of obtained carbohydrates are performed.

The initial analysis of the value chain structure in selected sector organizations shows various determinants for creating value for clients. The structure of the value chain will always depend on clients, their right, as in the public sector, and the needs and expectations of each sector. It can stem from specific stages of product design, as in the education sector, or providing products, as in utility sector. Of key significance, however, is the creation of value in processes which have been examined in many sectors and it has become possible to develop benchmarking patterns (or benchmarks), which constitute a reference point for improving organization in enterprises, institutions, and other business entities.

## **5. Conclusions**

Creating value for clients in the value chain is subject to numerous sector determinants. The activity of APQC in developing classification of processes in sectors confirms the legitimacy and necessity of conducting research and implementation work in particular sectors. Proper configuration of processes may be a starting point for obtaining better organizational efficiency, improved productivity and lower costs, which, in turn, should increase products value in use. The process decomposition in the value chain should reflect the diversity and specificity of particular sectors. An essential element of the analysis of the value chain is determining the beginning of creating value in processes of creating and developing vision and strategy of an enterprise. Another important aspect of creating value for clients is increased importance and development of the support activity, included in many categories of processes. Since the essence of the process is its repeatability and measurability, new challenges face the business activity, connected with analyzing support processes, measuring them and improving them following the rules adopted for operational processes.

The process approach in using the value chain increases the credibility of the supplier. Declaring value to clients is justified mainly thanks to standardization of processes constituting the value chain.

The value chain development in contemporary organizations is supported by advanced information technologies which facilitate coordination of activities and monitoring their effects, thus contributing to increasing various benefits, also for other stakeholders of the enterprise.

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# DYNAMIC MODEL FOR RESOURCE MANAGEMENT IN THE CLUSTER ON THE EXAMPLE OF SMALL AND MEDIUM SEAPORT

*Janusz Rymaniak*<sup>1</sup>

## **Abstract**

*This article aims at presenting the initial assumptions for and results of applying a simplified dynamic model of a complex undertaking. The object of the study is a seaport cluster. The article presents the assumptions for the resultant operational model, and the representative results of empirical studies of a small and medium Polish seaport, which are the research outcome of a non-hierarchical analysis of Polish seaport clusters. The dynamic studies were carried out at the level of process outcomes and phenomena for monthly cycles in 2014. The results have shown similarities and differences in the developmental types of small and medium ports, and they constitute the basis for developing the dynamic model methodology.*

**Keywords:** *system approach, process approach, resource based-view, RBV,, dynamic management, cluster approach.*

## **1. Introduction**

One of the particular features of academic activity is “forward escape” of researchers pursuing new areas of study. It is manifested by searching for novel research issues which have not been explored yet and which give the researcher the authorship in creating and/or solving them, and thus obtaining a novelty bonus. This results in a slower pace of academic advancement of problems and phenomena studies which were initiated earlier.

At the same time, advocates of methodological rigorism restrict the availability of practical applications of research results. For example, providing narrow definitions and fragmented variables makes the reality unreal, creating a picture that is never seen in managerial practice, and diminishing the applicability of obtained results (Czakon, 2016, pp. 46-47). The research evolution also results from the increasing specialization, the rising problem complexity level and the straightjacket imposed by IT systems (Niemczyk, 2014, pp. 167-176), which, however, does not restrict non-institutional – i.e.,

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attributive and functional – approaches. Attention is also drawn to the need to verify concepts and theories empirically, which limits their speculativeness and adds some practical qualities. The main function of management sciences is direct or indirect assistance to business, administrative and social organizations in the rationalization of their functioning and development (Sudoł, 2014, pp. 11-36).

One of the theoretically and practically significant research issues is the problem of seaports functioning. Its significance results from the need to unify the assumptions and mechanisms for the economic area of the European Union, and to specify the development possibilities and directions (PORTOPIA program). Making use of the junction of land and water as a seaport also means the need to equip the place with any necessary elements enabling access to the port both from the foreland (the sea) and the hinterland (the land). Therefore, the tangible aspect is of fundamental significance in seaport research. Some researchers propose that the research, which is mainly focused on the technical productivity of port assets (land, cranes, labor, and berths), should be extended to include the port effectiveness assessment to be made by its users, with regard to ship and cargo handling and providing the services pertaining to ship transport capacities and cargo handling (Brooks, Schellinck & Pallis, 2011, pp. 315-334). Nevertheless, it seems that an issue of key importance in seaport studies is specifying the basic constituents, the way they are interconnected to create subsystems, as well as the inter- and intra-subsystem relations. The determinant is the relations changeability, which causes a deficiency of resources on the one side (i.e., a surplus of demand over supply), or an excess of the port infrastructure (i.e., organizational slack). Nowadays the key issue in ports effectiveness is matching the demand and supply. The fact that entities approve investment decisions other than port authorities and that the investment implementation is secured with external financial transfers may lead to the port development according to an administrative and political vision rather than in response to actual needs (Sanchez & Wilmsmeier, 2010, pp. 19-44). Research studies which have been done so far emphasize that the basic factors for port effectiveness are the port infrastructure, equipment, technology and port operations, whereas the main processes are ship operations and cargo handling (Cetin & Ceri, 2010, pp. 195-219).

The purpose of this study is to show the research assumptions for ports development by creating a dynamic model of material resources that are a tangible base for a port cluster functioning. The model was developed via the resource-based, process and system approaches, and creating a structure of flows in time (monthly intervals).

The theoretical aspects contained in the methodological assumptions were verified empirically, specifying the developmental similarities and differences derived from the results of measurement of a Polish medium and small seaport.

## **2. Seaport as a research object**

### ***2.1. Idea and concept of a seaport***

Seaport-related issues are objects of research in numerous academic disciplines. The researchers who analyze creation, functioning and effectiveness of seaports find it necessary to take into account the specific nature of a seaport at the junction of sea and land (Talley 2012, pp. 473-490). The place is intended for changing the means of transportation of passengers and cargo, so it must be adapted to handle waterborne carriers (ships) and available for transport from the hinterland (railway, pipeline, inland waterway, road, and air transport). At the same time, the port area also serves the purposes of passengers and cargo handling, and also maintaining the technical conditions of vessels (renovations, small repairs, as well as shipbuilding in shipyards that are also located within the area of seaports).

The three purposes, that is: means of waterborne transport (ships), cargoes and passengers lead to creation of extensive networks of various activities, i.e., services Ship handling encompasses piloting, towing, mooring and other services rendered in relation to ships, such as renovation and maintenance services, water and electric power supply, bunkering, waste collection, cleaning, fire protection, rescue service. The main services related to cargo handling are the ones connected with staying at the port, embarkation, and disembarkation of passengers. This group also includes cargo-related services, such as unloading, transshipment, loading, stowage, storage, preparing for sale (e.g., sorting, repacking, marking, labeling, safeguarding, small repairs), distribution services, intra-port transport, quantitative and qualitative control (Klimek, 2010, pp. 47-49).

In order to carry out the aforementioned tasks, it is necessary to create a legal framework and have technical facilities that are adequate for the purposes. Via various legal acts, the Polish legal regulations enumeratively and obligatorily list the four major constituents:

- mechanism of management (the scope of ownership rights, entities managing on behalf of the owner, the object of activity of managing bodies);

- spatial range of each port, i.e., the administrative boundaries of the port from the sea and the land, with the specification of individual land plots;
- access infrastructure to each port, specifying the structures, facilities and systems being part of the infrastructure that ensures access to the port – with their specification, taking into account their location, kind, quantity or dimensions;
- port infrastructure of each port, comprising port basins and accessible structures, facilities and systems constituting the infrastructure – with their specification, considering their location, kind, quantity, or dimensions (Act of 1997).

The port is managed by a managing entity, and if there is none – the municipality or a maritime office having jurisdiction over that area. There is also a functional division of responsibility for individual port areas. The maritime office, being a specialized state institution, is responsible for the seaport foreland (the access infrastructure). Institutions subordinated to the office (harbor master's offices) are also responsible for vessel traffic within the ports. Entities responsible for the port infrastructure are the port authorities and owners (administrators) of the individual structures and facilities located within the port area.

Pursuant to the provisions of Art. 7 para. 1 of the Act on seaports and sea harbors, the scope of business activity of a managing entity includes:

- real property and port facilities management;
- port development forecasting, programming, and planning;
- construction, expansion, maintenance, and modernization of the port infrastructure;
- acquiring real properties for the purposes of the port development;
- rendering services connected with using the port infrastructure;
- providing access to the port facilities for collecting waste from ships for recycling or neutralization (Act of 1997).

The object of activity enumerated in the Act reflects the scope of responsibility. The legislator has stipulated that a port as a legal entity may run business activity only in three constituents of the list, namely in the area of a real property and port facilities management, rendering services connected with using the port infrastructure and port facilities for collecting waste from ships. A comprehensive (cluster) approach also requires accounting for the evolution of the idea and activity of the port authority, whose role of a real property owner set in the public domain is gradually changing into more autonomous organization that implements both public and private tasks as well as a business strategy (van der Lug, Doms & Parola, 2013, pp. 102-113).

The port has its sources of income in the form of fees for using the port infrastructure by vessels and cargoes (port fees – tonnage, wharfage, passenger

fees); for a real property and structures (fees for hiring, leasing, renting etc. of land, structures, facilities and utility systems found within the port), and for services rendered by the managing entity. Moreover, the port authority may obtain funds transferred from the state budget to cover the costs of approved modernization projects, renovations, or development investment projects.

The legislator strives to keep ports coherent and cohesive, as legal regulations stipulate practically exclusive ownership of the State Treasury. The aquatic part of the port and the access infrastructure are owned by the State Treasury, and they are statutorily excluded from trading. With respect to the port territory, the managing entity, or the municipality (or the State Treasury, if they do not use their entitlement) has special rights to the land (real property) that is not state-owned. These institutions execute the right of pre-emption, the priority right when the right of perpetual usufruct is granted with regard to the land or when the perpetual usufruct right is transferred, by making a representation in the form of a notarial deed within six months from the day of receiving the official copy of the notarial deed. Any reverse actions consisting in selling or other forms of transferring the title to any land plot located within the boundaries of the port must follow a specific procedure stipulated in the Act. Summing up, it may be said that the land plots being part of the port territory are under special supervision, which makes it practically impossible to transfer the title to the land permanently.

## *2.2. Seaport as a cluster*

What is vital for seaport existence and functioning is providing it with specific resources that make up the access infrastructure and port infrastructure, as well as the suprastructure. Therefore, a port practically constitutes an institutional and material base that enables implementation of the transport function. Pursuant to the solutions applied in Polish seaports and the EU regulations, the functions connected with organizing and executing the cargo transport are carried out by self-contained business entities that are not owned by the port or the state. One of the main tasks for the port economy was to switch to market mechanism principles by separating the organizational units and employees performing port operator tasks, transforming them into self-contained entities operating under the Code of Commercial Companies, and privatizing the entities (this task was not completed only with regard to the Port Gdański Eksploatacja company, which for several years has required more investment in suprastructure).

This configuration of legal and organizational solutions makes it possible to treat a seaport as a cluster. The term is derived from the concept dating back

to 1890, created by Alfred Marshall who specified the industrial districts, i.e., spatially designated areas (city districts) being geographic concentrations of adjacent small businesses characterized by, inter alia, securing the primary sector (big companies located in the industrial districts), off-market relations between enterprises, coordination, and mutual provision of services to one another by the companies (Baran, 2007, pp. 196- 207).

In the relevant literature, this form was defined as a cluster of mutually related companies, specialized suppliers, service providers, companies operating in related sectors and related institutions (e.g., universities, standardization institutions and trade associations) in the individual areas, competing as well as cooperating with one another. According to Porter, clusters are determined by elements such as geographic concentration, specialization, presence of companies as well as other institutions, and interdependence, i.e., cooperation (Porter, 2001, pp. 246-249).

The spatial aspect is also accentuated in the contemporary network concepts of clusters. Especially the initial stage, referred to as the level of cluster organizing, is defined as a network of enterprises and organizations that are locally concentrated (geographical density), organized by network management instruments, mainly as an organizational network (Stachowicz & Stachowicz-Stanusch, 2011, pp. 12-18). Thus, it may be said that two benefits of spatial concentration are accentuated. Concentrations of business entities that share, e.g., the technical infrastructure create conditions for achieving lower production costs. Also, they provide a faster and cheaper access to centers of consumption, supply, and sale.

A cluster is also defined as a territorial concentration of entities which run business activity and which are interconnected by shared goals and interests, based on the principles derived from legal regulations or concluded agreements (Rymaniak & Piotrowski, 2018). A concentration of entities suggests a variety of areas, institutions, tasks, and functions. The relevant literature mainly provides the broader concept of a cluster, in the form of a sea cluster. In those clusters, five types of activity are distinguished: cargo handling, transport, logistics, production, and trade (de Langen & Hazendonck, 2012, pp. 641-642). The concept focuses attention on institutions and kinds of activities connected with the maritime economy, without taking into account research centers, universities or other kinds of entities that currently enrich and expand the scope of the cluster activity.

A specific kind of a sea cluster, based on the spatial concentration and common goals as well as access to resources, is a seaport cluster.

It comprises the managing entity being the owner and/or administrator of the port and access infrastructure, and sometimes of the suprastructure, and all the entities located within the port, whose basic tasks are to handle

ships and cargoes (the extended version also includes ship renovations and shipbuilding) within the port territory, and also secure the functioning of the seaport and the port gates (land and sea entrances and exits). Based on this interpretation, there are sets of resources and institutional sets, as presented in Figure 1.

### LAND (HINTERLAND)

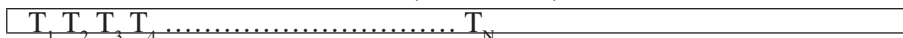
#### TRANSSHIPMENTS

SKt-1		UNLOADING		LOADING		SKt
=	+	From ships	-	Onto ships		=
SPT		From the hinterland (trucks etc.)		To the hinterland (trucks etc.)		SPT+1

### MODULES

Type	Sample constituents and measurement manner
<b>Quays</b>	Generic structure (transshipment, berthing, mixed)
	Operability (operable, inoperable)
	Quantitative utilization – quantity of ships in relation to the standard number
	Qualitative utilization – ship handling time in relation to the standard time
<b>Suprastructure</b>	Crane production capacity (of the port, operators, etc.)
	Capacity and operability of the port assets (buildings, structures, cranes, etc.) and utilization
	Railroad tracks and cranes in the harbor – operability, capacity, and utilization
<b>Infrastructure</b>	Area of warehouses, storehouses, storage yards etc.
	Capacity of silos, storage tanks and similar containers.
	Pipeline capacity, operability and utilization
	Roads, maneuvering yards, car parks – structure, operability, capacity, utilization
	Fueling stations, facilities for collection of oily and waste water – operability, capacity, utilization
<b>Companies</b>	Electric power, water supply, gas supply, sanitary and stormwater sewage systems – operability, capacity, utilization
	Assets, resources, contracts, capabilities, effectiveness of utilization – economic and financial results
<b>Foreland and hinterland</b>	Condition of the anchorage – area, utilization
	Fairways, port basins, turning basins – depth, capacity, utilization
	Marshalling yards, railways, inland waterways, pipelines, roads – quantity, structure, operability, capacity, utilization (co-modality)

### SEA (FORELAND)



**Figure 1.** The modular dynamic model of the port processes flow in the synthetic approach (the parameter: the current state of storage base utilization)

### 3. Dynamic model of a seaport

#### 3.1. *The model assumptions*

One of research directions in the area of contemporary tools of business management, especially enterprises (organizations), processes and projects, is the dynamic management concept. Dynamic management is defined as an integrated process based on sets of aggregate knowledge on the company and its environment, along with its continuous updating and improving, making it possible for the decision-makers to direct the company on a current basis towards meeting the short- and medium-term expectations of stakeholders. Process integration means implementation of the resources management function and their relations with the company environment over time, maintaining a comprehensive approach, i.e., engaging all the resources, systems and tools as well as all the areas of the company functioning and its environment (Lozano-Platonoff, 2009, pp. 40-41). The author proposes a comprehensive model of processes and elements of dynamic management, taking into account the adaptation processes (organization monitoring and applying corrective actions), innovations (searching for alternative process solutions), record-keeping (improvement, verification of results, action planning), and implementation consisting of making changes and measuring the effects (Lozano-Platonoff, 2009, pp. 88-102).

The main elements of dynamic models are dimensions and processes as their constituents. Contemporary enterprises (companies, clusters) are the object of multi-dimensional analyses due to their complexity and diversity of relations between the elements (cause-and-effect or self-contained), creating networks of interrelations as well as implementation processes.

One of the basic multi-dimensional models contains seven correlated dimensions of market positioning, such as product diversification, image diversification, focusing on niche markets and products as dimensions of unique competitive position. And also proactiveness, replication, reconfiguration, and cooperation as dimensions of the resource-based approach (Wirtz, Mathieu & Schilke, 2007, pp. 295-313). In another concept, common dimensions of dynamic management are proposed: innovativeness, ability to migrate values, speed of action and institutionalization. It is used to compare companies within one industry (sectoral benchmark) and/or over time (Rafał, 2013, pp. 65-83). In the port models, in turn, an integrated approach is assumed, examining the port capacity as a set of connections between the terminals with the foreland and the hinterland. The applied system approach takes into account two dimensions: static (available space) and dynamic, which consists of combining the available



equipment technology with the skills of available employees in the container terminals modules (Lagoudis & Rice, 2011).

The second element of the research is the processes. These are sets of sequential actions that are related by cause and effect, as a result of which we can obtain outcomes starting from initial expenditure, i.e., an expenditure that is transformed and enriched with added value constitutes a result of a process. Besides, they have measurable goals – creation of added value by customers, suppliers, and recipients – which denotes the boundaries specified by sale and purchase transactions, and they are repeatable – i.e., their course is registered (Grajewski 2007, p. 55). They can also be parallel (Skrzypek & Hofman, 2010, p. 12). In business processes, the decisive factor is their repeatability, i.e., their long-term occurrence.

Another variant is a concept of business processes dynamic management, focused on a learning organization. The concept is based on three principles that consist in following the evolutionary changeability in the course of performing (possibility of adapting, supplementations and changes in the course of performing), the equivalence of the process execution with documenting it in the IT system, and its complexity and continuity. This rule means that process management implementation should comprise at the least the complete basic process that describes the main activity of the enterprise, including suppliers and subcontractors (Szelaḡowski, 2014, pp. 147-166).

The processes are also classified according to various criteria. The methodological solutions regarding the study of Polish seaports applied the process classification model developed by APQC (American Productivity Quality Center), where the activity of the Port of Gdańsk authorities was broken down into 16 process categories, 5 of which are of fundamental importance – ship handling, lease handling, management of the production utilities (utilities networks and processing facilities), infrastructure management, renovations, and investment projects (Ossowski, 2012, pp. 297-312).

Adopting the cluster convention meant that the study had to take into account the extent to which the port resources were used, which are the basis for implementation of the mission and goals of all the kinds of entities functioning within the port area within the scope of the port's basic operations, i.e., the triad: ships – cargoes – infra-(supra-)structural base. Additionally, the following assumptions were adopted, which included the findings made so far:

- for the purposes of the studies, metrics that represent individual kinds of fundamental processes are distinguished;
- the study has to account for the current course of processes over time, and their variability on a monthly basis is subject to evaluation. The flows of the value stream in space and time also help specify any organizational inefficiency or waste (Cieślński, 2011, p. 38);

- the study reveals the processes of the port resources utilization in relation to the modules of port entrances and exits (foreland and hinterland), berths and quays, warehousing and storage space – as the basic resources shared by the cluster entities to meet their goals and missions;
- the model shows the effects of the processes implementation as monthly results of the flows, showing the annual structure of the intensity of the port operation, i.e., the intensity of entrance and exit operations;
- the adopted assumptions eliminate the potential overlapping of the processes on the entities structures, which eliminates any negative effects of the processes autonomization (Grajewski & Nogalski, 2004, p. 57).

Thus characterized, the model has its core focused on systems. The system approach is manifested by adopting a convention of an open system in which there are two kinds of gates (input/output in the foreland direction, i.e., the sea, and to the hinterland, and connection with the land side). Presented as a set of various modules, a port constitutes a black box which is a place of implementation of the studied phenomena and processes consisting in the transformation of resource inputs into output effects. Thus understood cluster (modules) may be considered from economic and financial results as well as the organizational effectiveness of the whole or a part of the port or of its impact on the environment of its location (del Sal- Salazar & Garcia-Menendez 2016, pp. 59-83).

Due to this approach, there is a possibility of avoiding the trap of simple cause-and-effect thinking (perceiving the world fragmentarily and analyzing only some isolated parts), which facilitates the development of paradoxes and contradictions that inevitably result from it (Pickarczyk, 2016, pp. 105-115).

In a simplified version, this means that the general model of an organization is treated as a set of the following elements:

- goals and tasks – specified above in relation to a cluster;
- facilities and technology – falling within the technical intra- and supra-structure;
- people, organizational structures and managing institutions (port authorities, maritime administration and managing bodies of companies located within the port) – i.e., the capability to transform the black box to implement the operating goals – via operating the modules and processes of implementation;
- the port inputs and outputs – showing the volume and direction of flows (relations with the environment).

The presented modernization of the classic models of Leavitt, Krzyżanowski, and Bielski (Adamik & Matejun, 2012, pp. 44-48) makes it

possible to present the model at the level of resources utilization, pursuant to the principle of “the simplified prototype” in designing the processes, and structures (Koźminski & Jemielniak, 2011, pp. 47-48).

The operating model should account for the basic determinants. The first of them is the measurement range. It was assumed that the model could take into account all the necessary, and especially the fundamental, processes of the port operations. They can be of deterministic or cause-and-effect nature, or they may arise regardless of any other phenomena and processes. The base for the processes consists of the modules presented in Figure 1, which indicate the factual aspects of the port’s resource base and organizational institutionalization. From that point of view, utilization of the port’s assets may be studied, as well as, e.g., their effectiveness or other selected parameters of organizations connected with the port. Thus we reduce complexity, which is the main constraint for the advancement of methodological solutions (Wyciślak, 2014, pp. 163-174). The modules may be the place shared by various organizations (cooperative solutions) or an object of purchasing a service that is rendered by a specialized entity, e.g., transshipment services (Rymaniak, 2013, pp. 59-70). Application of the modules omits the problem of the organizational boundaries, and especially its main mechanisms: expansion, shortening and buffering (Cyfert, 2012, pp. 17-24).

The object of the studies is the phenomena and processes of resources utilization that are decisive for the basic function, i.e., cargo transshipment (goods and passengers).

In this convention, occupancy of the quays was examined in terms of quantity of berthing vessels and their berthing time in relation to the operating capacities. Moreover, the evenness of the port utilization over the studied year was examined. The role of the synthetic (resultant) indicator is played by the current ratio of storage area utilization (warehouses, storage yards, silos, storage tanks).

This is possible by applying uniform conversion metrics such as weight indicators instead of volume. In the study, all kinds of cargo, i.e., goods, passengers and fish share the same capacity measures. This facilitates the management process integration (Cierpiół, 2014, pp. 125-134; Ossowski, 2012, pp. 297-304).

The applied method enables comparison of trends, without the need for direct comparative analysis. Each kind of port may apply a different level of mass measures (medium – tonnes, small – kilograms), which is not an obstacle in conclusion drawing. This is due to the fact that the purpose of the studies was an examination of the systemic mechanism of the port and not its comparative values.

The studies were performed for monthly cycles of 2014, applying the record data of the port authorities, maritime offices, the Department of Fisheries in the Ministry of Agriculture and Rural Development with regard to fishing monitoring data, and also the published statistics.

### ***3.2. Description of ports covered by the study***

This study makes use of the results of studies performed using the non-hierarchical cluster analysis method, covering 32 locations that have been given the legal status of a seaport in Poland. The results of the statistical analyses conducted for the years 2004, 2009 and 2014 have shown six clusters that constitute independent developmental types. The first cluster is made up by the four biggest Polish ports with a legal status of a port of primary significance for the national economy: Gdańsk, Gdynia, Szczecin, and Świnoujście. The subsequent three clusters are made by medium-sized ports: Darłowo together with Kołobrzeg, and Elbląg and Police separately. The ports are characterized by multi-functionality and versatile infra- and supra-structure. The other two clusters are made up mainly by small ports with a dominating fishery function, where the supplementary functions include transshipment of goods (Rymaniak, 2016, pp. 621-631).

Based on the results of the studies above, one of the medium-size ports (ALPHA) and one small port (BETA) were selected for the purposes of verification of the model assumptions. These are the ports that are the most representative for their clusters, as they show values closest to zero.

The ALPHA port's main function is cargo transshipment. Two companies are dealing with transshipment operations within the port territory, and they operate systematically throughout the year. The second kind of goods is fish, partly processed on the spot and sent to domestic and export markets. Seasonally, passenger transport is performed on an international route, and boat trips for tourists within the territorial waters. The production base includes two fish processing plants, ship repair facility (repairs of small ships and fishing cutters), and a fishing net manufacturer. Moreover, the port also fulfilled the berthing functions, both permanent (including wintering) and temporary, for sport and recreational vessels such and motor boats and yachts, as well as for floating facilities based in the given port.

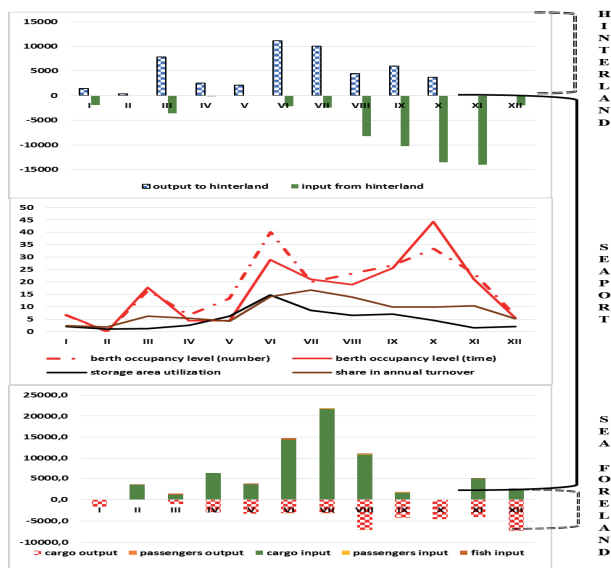
The BETA port predominantly performed the fishing function, being the home port for the registered and residing fishing cutters and the port of discharge for other cutters. In the years 2012-2014, the first stage of the port modernization was completed, including the comprehensive overhaul of the quays. The quays were equipped with water and electric power supply connections. Additionally, the port was provided with a port repair basin along with a workshop building

and a slipway to handle the fishing vessels residing in the port, as well as a building intended for direct sale of fish, along with a warehouse, refrigerated storage room, and ice making facility. Moreover, the renovation also involved the roads, yards, sanitary sewage system, stormwater draining system, electric power and water supply networks. As a result of the BETA port modernization, the berthing capacity was doubled. Ultimately, there are plans to construct facilities for collection of oil and waste water from fishing vessels. According to the port authority's documentation, the purpose of the investment is improving the occupational health and safety in the port in the four important, legally required aspects: safety, fishing vessels berthing and handling conditions, unloading conditions in the port, quality of storing and selling of fish products derived from sea fishing, and reduction in marine environment pollution.

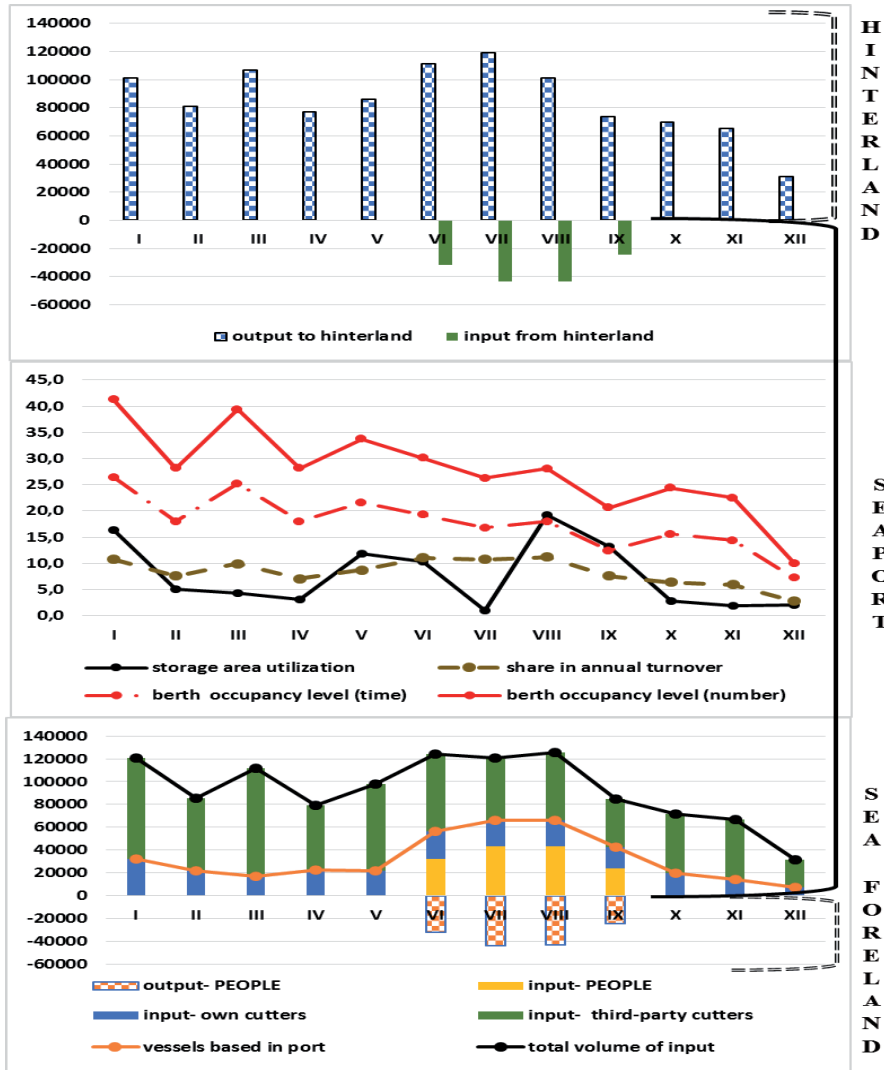
The studies were performed for monthly cycles of 2014, applying the record data of the port authorities, maritime offices, the Department of Fisheries in the Ministry of Agriculture and Rural Development with regard to fishing monitoring data, and also the published statistics.

#### 4. Discussion

The object of the evaluation comprises the adopted parameters of the dynamic model. A major parameter for measurement and evaluation of a port is transshipment cycle time. The medium-size ALPHA port requires measurement of the berthing cycles of ships at transshipment quays (Figure 2 and 3).



**Figure 2.** Dynamic model of the ALPHA seaport in 2014



**Figure 3.** Dynamic model of the BETA seaport in 2014

This is done in two aspects. The quantitative indicator was specified as a percentage of berths occupied in a month, whereas the time indicator was quantified as the time the berths were occupied in relation to the normative time. The normative time was assumed to be three days for entering, ship handling and preparing the berth for the next ship. The study involved the quantitative and time indicators describing the berths occupancy. As for the medium-size ALPHA port, the maximum values observed were: 40% quantitative quays occupancy level in June and 44% time occupancy level in

October. In turn, the fish unloading cycle is measured in hours. For examining the BETA port, only the shorter cycles are relevant, which are measured in hours. For the BETA port, the maximum several-hour cycle was adopted for fish unloading (discharging the catch early in the morning and preparing the fishing cutters for setting off to sea), and half-an-hour cycles in the case of boat trips for tourists. In this BETA port, the obtained results were more homogeneous, as both the quantitative and time indicators show the highest values in the months of the first quarter (26% and 41%). Then their value within the year drops successively to the level of 7-10%, which means a small utilization level of the port, especially at the end of the year.

Transshipment direction differentiates the structure of cargo flows. The ALPHA port is characterized by a greater balance of the input-output relations, as in the studied period the inflows accounted for 63% of the traffic, and 37% for the outflow. Thus, in the studied year, the port mainly played the “importing” function and handled incoming goods. The BETA port, in turn, is a port characterized by a relatively small volume of seafaring (short sea shipping). Therefore, the port does not receive much input from the hinterland (the land), it is mainly tourists coming for a sea trip in summer months (Figure 3). The dominating direction of the port traffic is from the foreland (the sea), as the unloading of passengers and fish is more significant in terms of volume. The latter is stored short-term within the port area (fish sale outlet). Consequently, the relation between the incoming and outgoing volumes is 89% to 11%. Thus, in both ports covered by the study, the dominating cargo flow direction was: the sea – the port – the hinterland.

What differentiates both ports is the monthly transshipment intensity. Due to its “fishery” nature, the greatest volume of transshipments in the BETA port was observed in the first months of the year, i.e., from January to May. It is characterized by specific path dependence, where monthly transshipment volumes show seasonal variability falling between the MAXIMUM and the MINIMUM of a given year (Vergne & Durand, 2010, pp. 736-759).

The changeability, which depends mainly on maritime transport contracts volume, is manifested by lower transshipment values for February and April, and a gradual fall in the value of transshipments from May till December, which is not made up for by the summer tourist trip boats. The ALPHA port, in turn, reached its transshipment apogee in the June - August period (Figure 2). The differences are shown by the port occupancy evenness ratio (the share of the month in the yearly turnover). As for the ALPHA port, the shares of individual months ranged from 1.8 to 16.9%. The biggest by far share in the turnover was observed in the period from June to November, thus including the tourist season. In the small BETA port, in turn, the highest shares were found in January and March, and then in the summer months from June to

August. Accordingly, it may be stated that there is certainly shared summer seasonality in the ports' turnover, which has no negative effect on the tourist traffic which is the main source of a location bonus for the studied port towns.

The synthetic indicator of the black-box is the level of utilization of the warehousing base located in the port. The ALPHA port showed an equal level of current utilization of the space intended for logistic purposes. Only in June, it was at the level of 15%, whereas in other months the utilization level was under 10%. It seems that this results from the prevalence of incoming goods, which is shortly transported to the hinterland, which results in a low level of stocks. Maintaining a balanced, low level of stored goods requires taking into account equally intensive dynamics of land transport. In the periods from January to April and November - December, the port is dominated by inflows of goods from the hinterland, whereas in the other months the inflows are balanced.

As for the BETA port in the studied period, the balance was more visible in the port – environment (foreland and hinterland) relation compared to the intraport relation (foreland – hinterland, i.e., loading – unloading). This regularity is confirmed by the storage area (warehouses, silos, storage yards, storage tanks) utilization parameter which is a false result of the differences in goods flows. No more than 20% of the goods remain within the port area in any particular month. They are equally balanced in terms of time, as the highest values were recorded in January (16%), and then in August - September when the ratio of the base utilization ranged from 19 to 13%. In the other months, the ratio remained under 19%, i.e., showed a high flexibility level characteristic for just-in-time models in lean production solutions.

## **5. Conclusions**

The presented formula for the simplified dynamic model and the obtained study results have proved that it is reasonable to advance theoretical explorations regarding sets of measures to evaluate the functioning and the results. This regards the creation of dynamic models, the system approach to the studies (Sadowski & Zajdel, 2009, pp. 271-278), as well as quantitative studies (Czakov, 2016, pp. 41-52). This is not affected by the fact that the conclusions obtained from some studies indicate a weak relationship between tangible resources and strategic efficiency, which hinders solutions regarding specification of a company success level in the context of the economic rent connected with the resources (Urbankowska-Sojkin, 2013, pp. 389-402).

Comparing a small and a medium-sized port, we may conclude that there is the same mechanism in place, but it differs in terms of scale. It was methodologically effective to adopt the method of structural studies where



different units of mass were applied, as the measurements in tonnes were applied in the case of the ALPHA port, whereas values recorded in kilograms were applied for the BETA port. The dynamic model should be developed to include subsequent parameters that are relevant for the level of processes regarding the process effectiveness of a port as a whole and the internal modules, i.e., the processes taking place within the quays (terminals). The adopted concept did not take into account economic indicators, focusing attention on the organizational (material) effectiveness.

The synthetic models were presented at the level of the fundamental port processes, taking into account the functioning system related as a result of the processes implemented in the modules. Detailed analyses, with a larger content of applicable conclusions, may be obtained via performing intramodule analyses, such as utilization of individual terminals (quays), equipment (e.g., transshipment) modules, the course of processes, etc. In turn, including the institutional analysis (i.e., the analysis of the economic effects of individual entities, including the managing entity) will make it possible to perform an aggregate evaluation of the dynamic management of the port as well as of its constituents and organizational participants.

Various developmental aspects were factually assessed. The fishing function in small ports does not prevent or require fencing off any port areas for production purposes. The production functions are implemented in the early morning, and therefore they do not hinder using the port areas for other purposes during the day. The operations connected with unloading the caught fish, fish transport and any preparatory activities take place mainly at dawn and early in the morning, whereas fishing cutters maintenance – later in the morning.

In the medium-sized port, in turn, there is a part of the port that is fenced off for production operations, and this is where the operators' companies and productions companies are located, transshipment quays for cargo vessels are also separated. Thus, the area of such a port consists of the fenced off part and the accessible part that is important for tourism. This is where there are berths for yachts, passenger ships and sporting boats as well as the port service vessels.

In terms of operations, there are differences in transshipment cycles, as these are measured in hours in the case of the small port and as a standard up to 72h in the medium-size ports, taking into account the time of preparation, implementation and restoring the transshipment efficiency of the quays. In the studied period, the actual berthing time of a cargo ship in the port was 1.9 days on average, and 25 ships (18%) left the port on the same day. The transshipment operators made use of all the transshipment quays, depending on the time of the ship's call and cargo type. For some kinds of cargoes, the

goods were prepared on other wharves, to shorten the time of the ship's stay in the port. However, these positive trends are accompanied by phenomena that are negative in the long run. Undoubtedly, ship owners should see that the issue of freight effectiveness and ship utilization requires strategic reorientation. It was found that in the year of the study all the cargo ships that berthed at the ALPHA port were utilized in 50%. This is due to the fact that they carried cargo only one way, as on their way back they were in ballast, which increased the maintenance cost of the ship (the shipping route).

The shared features of the studied ports include the small level of the quays utilization (low contracting level), a significant share of fish unloaded from cutters unregistered in the unloading port in the overall fish trading (other cutters – see Fig. 2 and 3), accessibility of the aquatic area and the land area, which facilitates non-port functions, and treating the port by the operator as a hub (transshipment place). The differentiating features are the transshipment and quay usage intensity periods, and ship berthing cycles, which share the greatest intensity only from June to August.

The results of the dynamic analysis confirm the thesis that flexibility of transshipment conditions tend to fluctuate, whereas port (hub) turnover flexibility remains on a high level (Rymaniak & Piotrowski, 2018, pp. 201-212). This is confirmed by the results of the operating measurements (in monthly cycles) of the studied ports, where low volumes of goods in the port are a proof of an attempt to maximize the flow (ports as hubs) while minimizing other traditional port functions such as production or storage.

Therefore, it may be stated that there is a low level of negative external effects that have an impact on the well-being of local inhabitants and the port's image (del Sal- Salazar et al., 2016).

It is proposed to create development strategies that will gradually evolve in the direction of the so-called fourth generation ports, i.e., intermodal transport nodes, and distribution & logistics centers. The directions of development also include port autonomy, promoting development of the so-called transport loco (stimulation of industrial development within ports and in port-adjacent areas, such as offshore wind farms, and also various forms of commercial activity, e.g., warehouses, duty-free zones, etc.), or active support of marine tourism, in its broad sense, such as ferries, cruisers, yachting, etc. (Grzelakowski, 2009).

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### **Biographical note**

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# THE ASSESSMENT OF SWOT APPLICATION IN PROGRAMMING OF REGIONAL DEVELOPMENT IN POLAND. RPO'S CASE STUDY

**Dariusz Woźniak<sup>1</sup> and Justyna Sokołowska-Woźniak<sup>2</sup>**

## **Abstract**

*Since the entry of Poland into the European Union, the Regional Operational Program (ROP) has become a basic tool for the implementation of the voivodeships' strategies. Because of their long-term horizons, they have the characteristics of a strategic plan and utilize strategic management techniques and tools. The aim of this article is to assess the use of SWOT analysis in 16 ROPs in the previous (2007-2013) and the current (2014-2020) EU financial perspective. The focus of the analysis is the method of delimiting internal and external factors, the process of objectifying these factors and the classification into strengths and weaknesses as well as opportunities and threats. In addition, the authors examine how the results of SWOT analysis in the projection part of the ROP were applied.*

**Keywords:** *strategic management in regions, SWOT analysis, regional policy, public policy evaluation, relevance, utility.*

## **1. Introduction**

At the turn of the first and second decades of the 21st century, significant changes in strategic planning at the level of the country took place in Poland. The basic elements of the newly implemented planning system in the legal sphere are<sup>3</sup>:

- Poland 2030 “Long-term National Development Strategy 2030.” Third Wave of Modernity (LTNDS) defining the main trends, challenges and the concept of country's development in the long term, a document accepted by the Council of Ministers on 5 February 2013.
- “The National Development Strategy 2020 Active society, competitive economy, efficient state (NDS, 2020), the most important document in the medium term, defining the strategic goals of the country's

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3 The whole process of development planning is regulated by the Act of 6 December 2006 on the principles of the development policy (Dz. U. no. 227, item 1658, as amended).

development by 2020; document accepted by the Council of Ministers on September 25, 2012.

- Nine integrated strategies which aim is to support achievement of the development objectives.

Space is a very important dimension of this strategic planning system. References to space can be found in the “National Strategy of Regional Development 2010-2020. Regions, cities, rural areas,” one of the nine integrated strategies, prepared by the Ministry of Regional Development (MRD, 2010) and in the National Spatial Development Concept 2030 (NSDC, 2030), the document, which sets out a spatial policy of Poland (MRD, 2012). The changes in strategic planning at the central level described above also resulted in modifications in strategic documents at the level of voivodeships (16 self-governmental units, referred to the II level territorial units according to the Nomenclature of Territorial Units for Statistics classification). The development strategies of the voivodeships play a bridge role between the regional state policy and the socio-economic policy of the regions. Additionally, due to the strong financial support from European Union (Poland was and continues to be the main beneficiary of the EU cohesion policy), regional development strategies have to take into account aims identified in the Europa 2020 strategy (CEC, 2010). Since the entry of Poland into the European Union, the Regional Operational Program (ROP) has become a basic tool for the implementation of the voivodeships’ strategies. Because of their long-term horizons, they have the characteristics of a strategic plan and utilize strategic management techniques and tools. The formulation of both regional development strategies and operational programs at the level of regional self - governments is, in essence, a strongly political process. The main task of the voivodeship board should be thus to harmonize the objectives and interests of all participants in the decision-making process and try to rationalize the choices made. This is particularly true of strategic decisions that reflect the region’s long-term development. The rationalization of this kind of decision also raises the chances of consistent implementation, regardless of the changing balance of forces affecting them (for example, through elections). In this context, the methodology and accuracy of the analysis are extremely important. Its results can be the only rational argument for concrete solutions, included in the development plans of self-government.

Strategic planning in Polish voivodeships, in the market economy regime, has nearly 20 years history (current territorial division and intuitional solutions on the regional level were introduced in 1998 and came into force on January 1, 1999). From the very beginning, this area was the subject of the interest of many researches (Klasik, 2000; Gorzelak & Jałowicki, 2001; Szlachta, 2001;



Wiatrak, 2006; Woźniak, 2006), what was magnified by the rising significance of evaluation practices (Grosse, 2006; Kudłacz & Woźniak, 2010). From the methodical perspective, the impressive progress in methods and techniques of regional analysis can be observed, both in domestic literature and policy design. The examples of these improvements are adopting advanced techniques like macroeconomic modeling (Bradley, Zaleski, Tomaszewski & Zembaty, 2007; Mogiła & Zaleska, 2013), foresight studies (Klasik & Kuźnik, 2013) or VAR models (Krajewski, 2017). Additionally, on the regional and local level, the need for training of the public administration staff (Dziemianowicz, Szmigiel-Rawska, Nowicka & Dąbrowska, 2012), and awareness of the significance of the coordination for socio-economics, spatial and financial planning (Kudłacz, 2016) were emphasized. Several elaborations (Czarnecki & Woźniak, 2012; Kudłacz, 2013; Noworól, 2013; Dziemianowicz, Szlachta & Peszat, 2014; Woźniak, 2015) indicate that although long tradition, experience, and achievements in the regional analysis in Poland, there are still many methodological shortcomings in projecting intervention on the regional level, especially in diagnostic part.

One of the methods commonly used in the programming of public intervention is SWOT analysis, which if properly and reliably conducted may allow rationalizing the process of formulating the strategy and operational programs. Proper diagnosis of the regional economy, coherent with the designed actions is crucial to the relevance and the utility of actions financed from public money. Relevance describes the agreement between the aim of the policies and the needs and problems in a particular sector or region (European Commission, 2005). Utility informs how the policy effects meet the needs of the region (European Commission, 2005). The fulfillment of these two criteria is fundamental to achieving the main principle of public finance system, which is transparency. The evaluation of the programming process should be therefore an object of in-depth studies.

This article aims to assess the quality of the application of SWOT analysis in 16 ROPs in the previous (2007-2013) and the current (2014-2020) EU financial perspective. The focus of the analysis will be the method of delimiting internal and external factors, the process of objectifying these factors and the classification into strengths and weaknesses as well as opportunities and threats. In addition, the authors examine how the results of SWOT analysis in the projection part of the ROP were applied. The regional level planning system and development of SWOT framework is carried out to support the achievement of this aim.

## 2. Planning of the regional development in Poland

The decentralizing reforms of 1999 and the introduction of the new administrative (and statistical) regions in Poland lead to significant changes in programming of regional development. The newly created regional self-government became important players in the economy, authorized to set and implement the development, plans, and strategies, and furthermore, entitled to allocate significant funds. The policy of the regional self-government authorities which influences the processes of socio-economic development in the region is known as intraregional policy and together with interregional policy (set by the central government) creates regional policy in Poland, which is one of the main important parts of the domestic development policy.

Since 2007 the regional policy conducted in Poland has been predominated by the EU Cohesion Policy aimed mainly at the enforcement of Community objectives. The general objectives of regional policy were presented in two basic medium-term strategic development documents, namely the National Strategic Reference Framework for 2007–2013 (NSRF, document defining support directions from funding available from the EU budget), and National Development Strategy 2007–2015 (NDS, principal strategic document defining the goals and priorities of Poland's social and economic development). NDS focused central government attention on two directions: Raising the competitiveness of the Polish regions and Levelling the development opportunities of problem areas, which was supported with the objective 5 of NSRF, increase of the competitiveness of Polish regions and preventing their social, economic, and territorial marginalization. In 2010, a separate strategic document for regional dimension of the development policy was adopted, i.e., "National Strategy of Regional Development 2010-2020. Regions, cities, rural areas" (NSRD)<sup>4</sup>. The NSRD establishes the strategic objective of regional policy, which is the efficient usage of specific advantages (so-called territorial development potentials), to achieve long-term perspective goals of country's development - growth, employment, and cohesion. The NSRD also sets out three detailed objectives to be fulfilled until 2020: supporting the competitive growth of the regions ("competitiveness"), enhancing territorial cohesion and preventing the marginalization of problem areas ("cohesion"), and the establishment of conditions for efficient, effective and partnership implementation of development activities targeted at territories ("efficiency") (MRD, 2010).

In the case of intraregional policy, both 2007-2013 and current period, its main instruments are the funds coming from European Union budget,

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<sup>4</sup> It should be added that a document of a similar rank was introduced at the beginning of the millennium, namely, The National Strategy for Regional Development 2001–2006.

mainly under cohesion policy redistributed through the realization of regional operational programs (ROPs). In the programming period, 2007-2013 Polish voivodeships allocated 16,6 billion of Euro under regional operational programs (ROPs) and influenced the allocation of the regional component of the operational program Human Capital (about 7 billion Euro). In the current programming period 2014-2020, the regional authorities are responsible for allocation of 31 billion of Euro under RPOs, which constitutes 41% of EU cohesion funds in Poland. The growing importance of self-governments in the allocation of EU funds is portrayed in Table 1, which presents the breakdown of cohesion policy funds into national operational programs (NOP) and regional operational programs (ROP), in both programming periods (2007-2013 and 2014-2020).

**Table 1.** The breakdown of cohesion policy funds in Poland in 2007-2013 and 2014-2020

<b>National Strategic Reference Framework (NSRF) 2007-2013</b>	<b>% of allocation</b>	<b>Partnership Agreement (PA)2014-2020</b>	<b>% of allocation</b>
Infrastructure and Environment OP	41.8	Infrastructure and Environment OP	35.66
Human Capital OP	14.7	Knowledge, Education, and Development OP	6.10
Innovative Economy OP	12.7	Smart Growth OP	11.21
16 Regional OP	25.4	16 Regional OP	40.69
Development of Eastern Poland OP	3.5	Development of Eastern Poland OP	2.60
European Territorial Cooperation OP	1.1	Digital Poland OP	2.83
Technical Assistance OP	0.8	Technical Assistance OP	0.91
<b>TOTAL</b>	<b>100</b>	<b>TOTAL</b>	<b>100</b>

**Source:** own elaboration on the basis of National Strategic Reference Framework (NSRF) and Partnership Agreement (PA).

Each regional operational program is elaborated and managed by an independent regional self – government board and reflects the needs and priorities of the region in increasing its competitiveness and accelerating its development. But it should be stressed that the flexibility in the preparation of this documents is restricted by the necessity to be aligned with the EU and member state’s (Polish in this case) main planning documents.

In 2007-2013 programming period, National Strategic Reference Framework (NSRF) was one of the most important documents in which the strategic priorities of the country and the implementation of cohesion policy

was identified (Ministry of Regional Development, 2006). The basics for the preparation of this document were set up in Community Strategic Guidelines (CEC, 2005), which was followed by the Council Regulation No 1083/2006 on July 11, 2006.

In the current programming period 2014-2020 Partnership Agreement (PA) is the most important document which defines the strategy of interventions of European Funds within the framework of three EU policies and 5 structural and investment funds (ESIF): the Cohesion Policy [the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF)], the Common Agricultural Policy (CAP) [the European Agricultural Fund for Rural Development (EAFRD)], and Common Fisheries Policy (CFP) [the European Maritime and Fisheries Fund (EMFF)] (The Ministry of Infrastructure and Development, 2014). Polish's Partnership Agreement is influenced by many policy documents at European and national level. The main strategic EU document is "Europe 2020 strategy for smart, sustainable and inclusive growth" (CEC, 2010), together with the Cohesion Policy Legislative Package, the Common Strategic Framework (CSF) and Country Specific Recommendations (CSR), Position Paper for Poland (European Commission, 2012). Each regional operational program has similar content, which is in accordance with the guidelines settled out by EU and addresses similar issues. In each OP, there must be a description of how the priorities set out in the program contribute to the realization of the EU 2020 Strategy for smart, sustainable and inclusive growth.<sup>5</sup>

The current designing policy intervention in EU is influenced by the concept of smart specialization, which starts from works of Foray, David, and Hall (2009). The basic assumption behind this concept is the idea that no state or region is a leader in all areas of science and innovation. So, each region should prioritize its strategic goals and concentrate resources in certain domains of expertise to achieve competitive advantage over other locations. Modern concepts stress that knowledge and innovation are the main drivers of regional development, and public policy should support these factors (see Sokołowska-Woźniak, 2013; Sokołowska-Woźniak & Woźniak, 2014 for empirical analysis of domestic, regional policy in this dimension, Mischczak, Markowska & Szółek, 2014).

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<sup>5</sup> The analysis of the main documents which influence the allocation of EU funds in 2007-2013 and 2014-2020 programming periods together with the characteristics and comparison of the allocation of Polish voivodeships' operational programmes for different categories of intervention was presented in work of Sokołowska-Woźniak & Woźniak (2016).

### 3. Method and data

The presented above critique of the practice of regional planning in Poland, particularly in the application of SWOT techniques (Sztando, 2006; Kudłacz 2013) and the recent developments of this technique presented beneath, form the basis of the method applied for the evaluation of the usage of SWOT in this article.

The SWOT model (also referred to as a tool, technique, framework, or analysis) has its roots in the business management literature; however, the origins of this term is unknown (Helms & Nixon, 2010). Some researchers (Pickton & Wright, 1998; Panagiotou, 2003) claim that this strategy tool was developed by Learned, Christensen, Andrews, and Guth (1965) from earlier efforts at the Harvard Business School to analyze case studies.

The SWOT is often presented as a 2x2 matrix and is in this form simply a listing of factors influencing the organization named Strengths, Weaknesses, Opportunities, and Threats. Strengths and weaknesses refer to factors internal to the company and opportunities and threats refer to factors external to it. Assigning each factor to one of the four categories allows to take a (relatively straight) look at the organization, what could be considered as the primary goal of the SWOT (useful to summarize diagnosis). Moreover, according to the factors grouped into SWOT and relations between them, particular actions that might be appropriate in certain circumstances can be planned (Weihrich, 1982). A general assumption of SWOT analyses is that a good strategy (plan) maximises strengths and opportunities and minimises threats and weaknesses. The actions to be undertaken that can be deduced from these four elements are (Dealtry, 1992):

- *Build* on strengths.
- *Eliminate* weaknesses.
- *Exploit* opportunities.
- *Mitigate* the effect of threats.

Analogous to business strategy, public institutions and authorities may also use a similar technique to identify the internal and external factors relevant to their strategic planning process. The 1980s, public administration embraced this classical model of strategic planning, adopting the basic managerial model across such areas as regional development and municipal planning (Karppi, Kokkonen & Lähteenmäki-Smith, 2001; Stimson, Stough, and Roberts, 2006). The implementation of SWOT analysis in the strategic planning process is similar to public and private organizations due to the decreasing differences of expectations about the nature of their activities and goals.

It is now expected that public organizations should aim at goals such as competitiveness, economic efficiency, or economic growth, which were

previously perceived as typical for the private sector. On the other hand, private sector organizations are presumed to take into consideration traditional public sector -normative concerns (openness, accountability, ethical standards). However certain differences of characteristics of the public and private sphere of SWOT analyses (and strategic planning) can be identified. In case of public sector, there is high dependence on political and administrative relations as well as the predominance of politically determined goals. Public authorities also should consider the interests of many stakeholders, very often difficult to identify, so the strategy should be formulated in wide partnership (for detailed analysis of differences see Karppi et al., 2001).

SWOT analysis has been valued for its simplicity and practicality. It is used in different areas for individuals, organizations, regions, or countries (Helms & Nixon, 2010). However, many researchers underline, that if it is used simplistically, the SWOT framework may lead to strategic errors. The main critics focused on following items (Ghazinary, Esmail Zadeh, & Memariani, 2007 based on Hill & Westbrook, 1997):

- Usually, only qualitative examination of environmental factors is considered,
- no priority for various factors and strategies is identified,
- number of adopted strategies could be enormous regarding all SWOT factor relations,
- the vagueness of the factors is not considered.

As strategy planning procedures are complicated by numerous criteria and interdependencies, the utilization of conventional SWOT analysis has become insufficient. The latest theoretical developments concentrate strongly on the enhancement of SWOT as decision support tool. Starting from Kotler (1991) more attention is drawn to avoid conventional SWOT framework shortcomings, related to the superficial, qualitative analysis and no means of determining the importance or intensity of SWOT factors analytically. Kotler suggested the development of matrices which encourage an assessment of the likely probability and impact any factor may have on the organization. The process of conducting these extra stages of analysis can result in an improvement in the clarity of the factor (i.e., an improved definition) and allows an assessment of the relative importance of the factor compared to others in the analysis (i.e., prioritization). A more advanced study in this area is presented by Lisiński (2004) and Ghazinary et al. (2007). The quantified version of SWOT is also supported by using other techniques, like Analytic Hierarchy Process or Grand Strategy Matrix (Kurttila, Pesonen, Kangas & Kajanus, 2000; Chang & Huang, 2006; Shinno Yoshioka, Marpaung & Hachiga, 2006).

Panagiotou (2003) proposed a less formalized extension, but clearly more structured analysis based on the SWOT, called TELESCOPIC

OBSERVATIONS, which can produce more systematic and coherent appraisal of an organization.

For assessing the quality of the SWOT adoption in RPOs, the qualitative analysis in the article is carried out. Authors focused on eight criteria grouped into three dimensions (presented below). For measurement, nominal scale for each criterion is used (explained in brackets).

Dimension I: Identification of the list of external factors and their influence on region:

- 1) Description for the rationale of the list (presented P, not presented - NP).
- 2) Development of principles of the measurement (definition of the criteria of classification to the O/T group, benchmark, normative values if suitable, (presented-P, not presented - NP).
- 3) Assessment of their importance/impact on the region (not presented NP, descriptive/qualitative - D, quantitative - Q).

Dimension II: Identification of the list of internal factors and their influence on region:

- 4) Description for the rationale of the list (presented P, not presented - NP).
- 5) Development of principles of the measurement, the definition of the criteria of classification to the O/T group, benchmark, normative values if suitable, (presented-P, not presented - NP).
- 6) Assessment of their importance/impact on the region (not presented -NP, descriptive/qualitative - D, quantitative - Q).

Dimension III: Strategic position:

- 7) An analysis of external-internal factors interactions (presented P, not presented - NP).
- 8) Conclusions about strategic alternatives (presented P, not presented - NP).

The authors are aware that such „technical” look at the process of creating the SWOT analysis (and the whole strategy) is not always a guarantee of a well-designed activities for each organization [Mintzberg (1994) called the person who “carries out analytic studies to ensure consideration of the necessary hard data and carefully scrutinizes strategies intended for implementation analytic studies” as “right-handed planner” in contrast to “left-handed planner” and “inclined toward the intuitive processes”].

An alternative, “soft approach” based on intuition does not seem, however, proper for activities funded by public money, where the transparency principle plays a key role.

The subjects of the analysis are regional operational programmers (ROPs) in Poland for years 2007-2013 and 2014-2020. 32 documents of ROPs were downloaded from the regional authorities' official websites from 20 to 27 of May 2017.

#### **4. Analysis**

Between 2007 and 2013, all voivodeships decided to apply the SWOT analysis in ROPs, though it was not obligatory. In the Council Regulation No 1083/2006, July 11, 2006, where all obligatory elements of operational programs were presented, the following item was demanded: "an analysis of the situation of the eligible area or sector in terms of strengths and weaknesses and the strategy chosen in response." The similar requirements were replied in Act from December 6, 2006, on the principles of the development policy (Dz. U. no. 227, item 1658). However, the usage of SWOT analysis was recommended in the non-formal document prepared by the Ministry of Regional Development, where the detailed information about ROP's contents was set.

The results of the analysis are presented in Table 2. The analysis of ROPs for 2007-2013 implies that diagnostic parts in all cases are very comprehensive and contain many detailed data about voivodeships. Although the list of factors (or rather analyzed areas) is impressive, it has to be stated, that analyzed documents present no rationale for both external or internal factors (based on theory, expert choice or other). In most cases (14 of 16, symbol\* in Table 2 represents those, which introduced such clustering) all factors are grouped into few areas, dimensions of the region (e.g., economy, society, infrastructure – case of Mazowieckie), which is helpful to analyze such comprehensive organizations. The quantitative dimension of the factors is not present, no precise criteria for delimitating strong/weak sides and threats and opportunities were presented. In several cases (namely 5, \*\* symbol in Table 2) only general description of the strengths, weaknesses, opportunities, and threats was presented (without addressing to specific factors). Only in the case of Śląskie, the benchmark for internal factor was shown.



**Table 2.** Evaluation of SWOT application in ROPs

	External factors						Internal factors						Strategic position					
	1		2		3		4		5		6		7		8			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
Łódzkie (LD)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NA	NP	NA	NP	NA	NP	NA	NP	
Mazowieckie (MZ)	NP*	NP*	NP	NP	NP	NP	NP*	NP*	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Małopolskie (MP)	NP*	NP*	NP	NP	NP	NP	NP*	NP*	NP**	NP	NP	NP	NP	NP	NP	NP	NP	
Śląskie (SL)	NP*	NA	NP**	NA	NP	NA	NP	NA	P	NP	NP	NP	NP	NP	NP	NP	NP	
Lubelskie (LL)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Podkarpackie (PK)	NP	NA	NP	NA	NP	NA	NP	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Podlaskie (PL)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Świętokrzyskie (SW)	NP	NA	NP**	NA	NP	NA	NP	NA	NP**	NP	NP	NP	NP	NP	NP	NP	NP	
Lubuskie (LB)	NP*	NP*	NP	NP	NP	NP	NP*	NP*	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Wielkopolskie (WP)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Zachodniopomorskie (ZP)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Dolnośląskie (DL)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Opolskie (OP)	NP*	NA	NP**	NA	D	NA	NP*	NA	NP**	NA	D	NA	NP	NP	NP	NP	NP	
Kujawsko-pomorskie (KP)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Pomorskie (PM)	NP*	NA	NP	NA	NP	NA	NP*	NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	
Warmińsko-mazurskie (WM)	NP*	NA	NP**	NA	NP	NA	NP*	NA	NP**	NA	NP	NP	NP	NP	NP	NP	NP	

**Notes:**

*Dimension I: Identification of the list of external factors and their influence on region:*

1. Description for rationale of the list (presented P, not presented - NP).
2. Development of principles of the measurement (definition of the criteria of classification to the O/T group, benchmark, normative values if suitable, (presented-P, not presented - NP).
3. Assessment of their importance/impact on the region (not presented NP, descriptive/qualitative - D, quantitative - Q)

*Dimension II: Identification of the list of internal factors and their influence on region:*

4. Description for rationale of the list (presented P, not presented - NP).
5. Development of principles of the measurement, definition of the criteria of classification to the O/T group, benchmark, normative values if suitable, (presented-P, not presented - NP).
6. Assessment of their importance/impact on the region (not presented -NP, descriptive/qualitative (D), quantitative (Q).

*Dimension III: Strategic position:*

7. An analysis of external-internal factors interactions (presented P, not presented - NP).
8. Conclusions about strategic alternatives (presented P, not presented - NP).

A – 2007-2013 period

B – 2014-2020 period

\*, \*\*, \*\*\* explained in discussion

NA – non applicable (element cannot be found in the document)

Opolskie was the only example with an attempt to prioritize factors, according to their impact on the region (though very general, monotonically decreasing ordering). Three documents (for Łódzkie, Podlaskie, Wielkopolskie) contain a descriptive analysis of interdependencies among factors. In six cases, more or less straight conclusions from SWOT analysis for projected intervention were drawn (Łódzkie, Lubelskie, Podlaskie, Świętokrzyskie, Wielkopolskie, Pomorskie).

In the current period, most of the regions (13 of the 16) resigned to put the SWOT analysis into ROPs directly, referring in the obligatory part of the ROP (*Each program shall set out a strategy for the program's contribution to the Union strategy for smart, sustainable and inclusive growth consistent with this Regulation, the Fund-specific rules, and with the content of the Partnership Agreement, general regulations*) to the regional development strategies or regional innovation strategies, where such a technique is applied (SWOT was not an element of the amended Act on the principles of the development policy and Ministry's guidelines either). Only in 3 cases (Małopolskie, Mazowieckie, and Lubuskie), SWOT analysis could be found in ROPs directly. There are no changes in main findings comparing to the previous period. There are clear delimitations of the analyzed areas, but specific list of internal and external factors with any explanation of selected items is not presented. Quantitative side of the elements is also not shown. It means measurement principles, classification criteria, importance or impact on the region are missing. Also, no direct conclusions from the SWOT for the strategy are introduced.

## 5. Conclusions

*Role of diagnostic part in ROPs.* Proper diagnosis of the regional economy, coherent with the designed actions is crucial to the relevance and the utility of public intervention financed by the EU taxpayers. That statement is not so obvious if we realize that financial resources (and requirements) for ROPs' implementation come from the EU level to regional stage (possible principal-agent problem). Application of SWOT analysis, used commonly in regional programming practice in Poland, could be useful to mitigate this problem if adopted properly.

*SWOT developments.* SWOT technique has been known and applied widely since the half of the previous century. In recent decades, the overall vagueness of the method has become strongly criticized. More technical, quantitative approach to measurement, classification of factors, assessment of the importance and impact of the organization is developed.

*SWOT quality in ROPs.* According to the conducted analysis, the quality of the SWOT application in ROPS is assessed very poorly. Firstly, there is no practice to prepare the rationale (theoretical basis) for creating the list of internal and external factors influencing the region. SWOT is most often conducted in specific dimensions with a plenty of variables, identified probably by the experts. However, no description of such procedure is shown. Secondly, no measurement principles according to the factors are introduced, so classification into weak or strong sides, threats and opportunities are not transparent. Additionally, no attempt to assess the level of significance of the factors to the region is provided. It is really surprising while taking into account enormous set of data used in the diagnostic part of the programs. Thirdly, in most cases, SWOT is not used to interlink the diagnosis with the action plan. The analysis of internal and external elements interactions is quite rare. Only in 6 cases conclusions from SWOT to design the intervention were drawn. All these shortcomings may result in undesirable outcomes according to the relevance and/or utility of the intervention.

The possible explanation of the findings may be the use of the results of SWOT analysis to support the political choices. It is worth to underline that the whole regional development strategy and regional operational programs, in particular, is financed by major part from the cohesion policy funds and should be aligned with EU strategic goals, which may be different from regionally identified needs and aims. As stated in the previous parts of the article, strategy formulation in public organizations may be dependent on political and administrative relations and predominated by politically determined goals.

The dependence of regional authorities on EU funds (together with 100% funds absorption requirement) may restrict the coherence between diagnostic and planning parts of ROPs as well as SWOT technique quality.

*Method limitation.* Preparing ROPs are generally very comprehensive and complex undertakings. It is possible that required information for the analysis is located in other elaborations (not mentioned directly in ROPs documents). Probably the application of other research techniques like in-depth interviews with the representatives of the team responsible for ROPs preparation will improve research materials.

*Further research.* Investigation of other strategic plans (national, regional, local) is desirable. Also, other countries experienced review will enrich the analysis of the SWOT implementation in socio-economic programs.

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