

DIAGNOSIS OF INTELLECTUAL CAPITAL IN MACROECONOMIC TERMS ON THE EXAMPLE OF SZCZECIN AND OPPORTUNITIES FOR DEVELOPMENT OF CREATIVE SECTOR

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Abstract

The economy of the 21st century is characterized by dynamism, volatility as well as uncertainty and risk. The rapidly changing competitive environment in the local and global environment has resulted in the need for active, pro-creative and pro-innovative attitudes of business actors. Creative process rarely happens in isolation; this is usually the result of interactions between people in a particular community. However, some people are better able to combine elements from different areas of knowledge to create added value. To effectively generate creativity, communities should be geared towards increasing efficiency by effectively using the city's intellectual capital. The aim of this paper are cognitive, theoretical-methodological considerations on the determinants of intellectual capital development and its influence on the creative sector in Szczecin, Poland. The methods of document analysis, analog and heuristic analysis, and interviews were used. The determinants of the development of the intellectual capital of Szczecin, obtained on the basis of surveys done, have made it possible to point to the influence of individual components that favor or inhibit the development of the presented sector as a key resource driving modern development.

Key words: intellectual capital, creative sector, research, components.

Classification JEL: M12 – Personnel Management.

1. Introduction

Modern economy entered the era in which the ability to manage intellectual capital determines the success of not only economic. The term most often referred to as the functioning of enterprises is gaining widespread use. One of the evolutionary directions of this discourse is the search for quantification of this capital at the level of countries, regions or cities. It is not easy to diagnose intellectual capital at organization level, but it is difficult in the scale of space.

Despite the difficulties of interpretation and quantification, the paper deals with analyzing the development of intellectual capital as an important determinant of the development of creative cities, including creative sectors. This is due to the change in the paradigm of economic growth that has been taking place for many years. Hence, to show a certain scientific area and to analyze it in the paper, two streams were distinguished.

The first one is cognitive, concentrating on the review of the literature of the subject. These studies included the Polish and foreign literature, which allowed to make a critical analysis and research shaped frame. These included concepts related to the concepts of intellectual capital of the region, including the city. Comparative analysis of the city's intellectual capital, including the creative class, was also made.

The second stream of studies concentrates on the conducted research in the form of questionnaires and focused group interviews on the positive impact of the city's intellectual capital on the development of creative industries and on the example of Szczecin. This survey was conducted on a group of entities within the creative sector, and as a control group were taken entities outside the sphere of activity. The interviews were attended by students of the Faculty of Management and Economics of the University of Szczecin. The first group consisted of regular students, and the other one of non-regular students. In this way the obtained opinions allowed to verify the assumed hypotheses and the research goal.

2. Etiology of intellectual capital

The historical determinants of the definition of intellectual capital and the entire theoretical process of evolution of this issue, according to M. Mroziewski (2008), were as follows. The foundations for the concept development first put *W. Petty* (1623–1687), who described the theory of national wealth, which for the first time introduced the factors of production which ranked among: work, land, different resources, professional qualifications, manufacturers. Then a significant contribution to the development of this issue brought *A. Smith* (1723–1790), who introduced the distinction between fixed capital and rotating. According to him, working capital was made up of real assets that bring revenue to their owners as a result of sales during the production cycle. He pointed out that the essential feature of working capital goods is that they constitute the objectification of a certain purchasing power that returns to the owner of the capital. Durable capital consists of goods that are involved in the production process without changing ownership, i.e. tools, buildings, machines and human capital as the capital value of useful skills acquired by the inhabitants of the country or members of society. The term capital appear “produced means of production”, and acquired workers’ skills are undoubtedly created by using material resources. *A. Smith* claimed that skills are acquired through education, learning in a profession, and are always accompanied by certain expenses.

Then, *Ph. Wicksteed* (1844–1927) considered in his reflections that every factor of production that could be isolated and quantified was involved in productivity, while *Alfred Marshal* (1842–1924) argued that the increase in capital and labor would normally lead to improvements to the organization, which in turn increases the productivity of labor and capital. He recognized knowledge as an important source and strength in product manufacturing.

Another contribution to the development of the theory of intellectual capital brought *E. von Bohm-Bawerk* (1851–1914), who in his analysis assumed that land and labor were ‘natural primary’ factors of production. He believed that capital was a ‘produced’ or indirect factor. Its supply depends on the amount of land and labor spent on its production in the past. And the role of capital in production is that it allows for the adoption of more productive but also time-consuming ‘circular’ production methods. *G. S. Becker* (born 1930) in his 1964 work called as Human Capital, used the notion of ‘investment in people’ and pointed out that skills and knowledge are an important part of human capital, which closely affects the amount of income. He argued that the low level of human capital is a common cause of poverty, and in turn misery does not allow investing in this kind of capital. He showed that high levels of profitability were provided by state aid in education, particularly the unemployed, to improve their professional qualifications. And *M. Blaung* (born 1927) thought that the production factors by their very nature are complementary to each other.

On the other hand, according to source material, the term ‘*intellectual capital*’ was first used by two financial analysts in 1958, who noted that this asset of information technology companies had a significant impact on their value. In their opinion, the high stock quotes of information companies may be referred to as their ‘intellectual bonus’ (*Pietruszka-Otryl, 2002*). Other sources state that the term intellectual capital by other authors was first applied in 1969 by *J. Kenneth Galbraith*. He wrote in his letter to *M. Kalecki*: „I wonder if you realize how much we all over the world owe to the contribution of your intellectual capital in the last decades” (*Hudson, 1993; Strojny, 2000*). The author used this notion to describe in the broader sense the meaning of not only the pure intellect, considering it as the degree of intellectual activity. In this sense, capital is not only a static intangible asset but a process (*Dudycz, 2005*). This term was concerned with assessing the potential of the person’s intellect, not the company, region or country.

As we can see, the first references to intellectual capital are found in the 1960s and 1970s, although real interest in this subject was in the early 80’s. Then it was *W. Wriston*, president of Citicorp (the largest bank in the United States) who stated that the real potential of his bank, as

well as other entities, is intellectual capital. It is noteworthy that at exactly the same time *H. Itami*, in examining the financial results of Japanese companies, found that the differences appear because some of the entities consciously and effectively use intangible assets. As a result, he acknowledged that the increase in goodwill resulted from the interaction of various types of intangible assets. He did not find that the presence of these assets leads to competitive advantage, but their simultaneous use may lead to its creation. The effects of his research has been included in the work called as *Mobilizing Invisible Assets*, which was released in Japan.

Table 1. Contribution of macroeconomic theory to the concepts of intellectual capital (Bounfour, A. 2005. Modeling Intangibles: Transaction Regimes versus Community Regimes. In: A. Bounfour & L. Edvinsson. Intellectual Capital for Communities. Nations, Regions and Cities. Oxford: Elsevier Butterworth-Heinemann; Ducharme, L. M. 1998. Measuring, Intangible, Investment. Introduction: Main Theories and Concepts. OECD)

Theory	Major Representatives	Main theses
Theory of human capital	G. Becker (1964, 1975) T. Schultz (1969, 1971) J. Mincer (1958) J. W. Kendrick (1976) A. Bartel (1991, 1992)	Human capital alongside physical capital has become a significant factor in development. It plays a special role in the processes of economic growth. Being able to see it as a skill resource is a factor that together with physical capital and unqualified work participates in total production. Otherwise, it is a source of knowledge and a source of innovation and technical progress.
Theory of innovation and technological change	J. Schumpeter (1883–1950) R. M. Solow (1957) K. Arrow (1962) Z. Griliches (1957, 1995) E. Mansfield (1968, 1991)	A significant factor is the technological change that in this context is understood as the accumulation factor. Innovation has a real impact on the productivity of businesses and the whole of the economy.
New growth theories	P. Romer (1986, 1990) R. Lucas (1988) G. Grossman & E. Helpman (1991) R. J. Barro, X. Sala & Martin (1995)	Technological progress is no longer an external determinant which is the accumulation of scientific and technical knowledge or human capital resulting from targeted investments by business entities. Theories of endogenous growth have emerged on the basis of these considerations.
Evolutionary theories	R. Nelson & S. Winter (1982) G. Dosi (1988) M. Amendola & J.L. Gafard (1988) B. Carlsson & E. Taymaz (1991) B. Carlsson & G. Eliasson (1990)	In analyses of growth, researchers as the main factor recognized technical progress and education. They are the basis for the behavior and development of the enterprise resulting from the learning process rather than the optimization of resource allocation. Innovation is a cumulative process.
Neoinstitutional economy	G. Mardal (1957, 1973) D. Landes (1998) D.C. North (1990) O.E. Williamson (1985)	In institutional theories, institutions are understood as valid norms and values, constituting an important determinant of growth and economic development. Resource efficiency is conditioned by a stable framework regulating business and property rights. In addition, there is a social capital in society that has the capacity to create added value.

Another first attempts of defining intellectual capital are found in the works of *K. E. Sveiby*. Sveiby together with a group of friends called as Konrad's group bought up the declining *Affärsvärlden* and over the past fifteen years created a thriving publishing company *Ekonomi + Teknik Forlag*. He writes in his book *The New Organizational Wealth* that the cause of the company's success was a move away from traditional methods of management towards

a completely new approach, which was the origin of a new management concept namely the management of intellectual capital in the organization (*Sveiby, 1997*).

However, the first publication in which the term was used to emphasize its business character was *T. A. Stewart's* article (June 1991) *Brain Power – How Intellectual Capital Is Becoming America's Most Valuable Assets* (*Kardas, 2008*). The author of the paper stated that intellectual capital is the sum of all that everyone in the company knows and that makes it possible to gain market advantage. Stewart described him as so called 'intellectual input' in the form of knowledge, intellectual information, which can be transformed into material wealth. In summary, it is worth noting that intellectual capital considerations have their roots in the theory of development and the factors that shape this development. To synthetically refer to some of them it might be pointed out that at first the representatives of classical economics referred to the claim that physical capital was a significant developmental factor. Non-physical factors were not subject to detailed analysis, although it cannot be said that they were not of interest to the investigators in this regard. However, they were regarded as factors of importance far less than the preferred physical capital.

3. Selected definitions of intellectual capital of the region/country

Many theorists and practitioners of economic life now attempt to define this notion. New and newer attempts are being made to describe the presented phenomenon. On the one hand, they create a certain conceptual space that allows categorization of this phenomenon and, on the other, new inaccuracies and questions arise. The notion of intellectual capital is not easy to define, it embraces both phenomena as well as relations and processes between them (*Mikul & Pietruszka-Otryl, 2002*).

Today intellectual capital is defined in the literature as the main driver of the global economy of the future and the key to success in the 21st century. It is the strongest asset in creating value and its competitive advantage (*Kaczmarek, 2014*). The components of intellectual capital are both intangible assets and the ability to develop and coordinate all resources (material and non-material), (*Sopińska & Wachowiak, 2004*).

In the literature of the subject there are definitions which describe this problem at the level of macrostructures or middle-structures – country, region. According to *N. Bontis (2004)*, intellectual capital of the country includes the hidden values of citizens of the country, businesses, institutions, communities and regions that are present and potential sources of wealth. These hidden values are the basis for improving future social well-being... According to another definition, the region's intellectual capital is all available intangible assets that give the region a relative advantage over other areas and which, combined and used simultaneously, can be beneficial to the region in the future. *J. R. Pomedá et al. (2002)* define intellectual capital of the country as the assets related to people, relationships, and use of technology. The World Bank (2008) examines the assets of knowledge in countries. According to the accepted concept, knowledge is the kind of assets that, through appropriate use and adaptation, are a key source of growth in the global economy. This is reflected in entrepreneurship, innovation, R&D, software and quality, while supporting these processes through investments in human capital, effective institutions, communication technologies, innovative and competitive enterprises, etc.

Intellectual capital is the most important factor for economic growth and development. Similarly to the definition of the concept, the elements are often defined at the level of enterprise development. However, this did not prevent them from adopting these concepts on a regional basis. The literature review of the subject shows that the intellectual capital of the region according to some authors consists of (*Bal-Woźniak, 2016*):

- Human capital, process capital, market capital and development capital according to *N. Bontis (2004)*;

- Human capital, structural capital and relation capital according to D. G. Andriessen & Ch. D. Stam (2004).

Therefore, intellectual capital should be managed in such a way as to adapt to the strategic objectives of the region or country. This requires continuous verification of the knowledge resources and proper management of the knowledge, and this should lead to a change in the scope and quality of intellectual capital.

To summarize the reflections on attempts to define intellectual capital in a region or country, it should be noted that there is no universally accepted definition of intellectual capital on this level of deliberation, but it must be noted that the first studies referred to the intellectual capital of countries, and were later expanded to include analysis the intellectual capital of the smaller territorial units. In addition, the definition of intellectual capital of the region applies to concepts such as knowledge assets or intangible assets of the region. The intellectual capital of the region is most often seen in literature as *all intangible assets that can influence the achievement of a particular result*. The term *result* lies in encouraging economic growth (e.g. *The World Bank, 2008; Malhotra, 2000, 2003; Pasher & Shachar, 2007; Węziak-Białowolska, 2010*), maintain the competitive edge of the region (e.g. *Rodriguez & Viedma, 2006; Pasher & Shachar, 2007*), creating the value of the region (e.g. *Malhotra, 2000; Pomeda et al., 2002*), enhancing the quality of life of the inhabitants (e.g. *Malhotra, 2003*), improvement of social well-being (e.g. *Pomedai et al., 2002; Węziak-Białowolska, 2010*), improvement of the welfare/wealth of the region (*Bochniarz, 2008; Malhotra, 2003; Bontis, 2004*). The fact that intellectual property is owned by the region does not guarantee profit; the essence of success lies in its proper use (e.g. *The World Bank, 2008; Osińska, 2014*).

4. Intellectual capital of the city

By the end of the second half of the twentieth century, in the world and in Poland relatively little attention was paid to intellectual capital in assessing the potential of the city. This situation has changed in recent years and more and more often in the literature of the subject are analyzed the above issues and researches are conducted. According to the report prepared by Ernst & Joung (2008), intellectual capital of cities are generally all intangible assets of residents, businesses, science, culture and institutions, including local authorities, and the media, which used appropriately, can be a source of current and future welfare of the city. Intellectual capital *consists of the following components*:

- a) *The potential of the environment*: the potential of all stakeholders, expressed in their education, life experience, attitudes, skills capable of improving the present and future social well-being of the city;
- b) *Internal relations capital among stakeholders*: city development potential resulting from stakeholder engagement, ability to build win-win relationships, mutual support in the achievement of goals;
- c) *External relations capital*: the city's development potential resulting from the image of the city, from the level of cooperation and integration of the city and its surroundings with the external stakeholders and the country (central government, other cities, business, science, culture, creative environment, diaspora, tourists) and abroad (media, cities, business, science, culture, immigrants – including creative circles, diaspora, tourists).

Accordingly, the city's intellectual capital is to be understood as a hidden asset manifested in the capacity of institutions and people to transfer knowledge and its application, appropriate social attitudes, which in combination with culture favors the generation of added value. It is important to note that the proposed definition directs the main burden of deliberations on the human individual as a central determinant of development.

Bearing in mind the theory presented above, this paper presents the following definition of the city's intellectual capital: *Intellectual capital in a broad definable scope can be described as an asset with an initially intangible value cumulated in economic entities as a whole system of interrelated elements that cannot exist without a logical linkage, which in the future brings measurable benefit in the form of added value and represents the future social well-being. Its size and significance are influenced by many material and non-material determinants that build its total potential and possibilities of its use. Using them in a combined and simultaneous way creates the chances of gaining competitive advantage depending on the plane of deliberation. We can talk about the increase of added value in terms of individual person (it is individual intellectual capital of human being), entity (it is organizational capital, implementation capital, often also referred to as structural capital), groups of entities or a particular territorial area (the whole society, calling it as intellectual common capital, as a sum of individual capitals).*

To carry out a proper assessment verifying the above conclusions, the tools used for this study were constructed. In addition, it adopted the concept of assumption on the classification of intellectual capital on the personal and impersonal factors (Figure 1). The purpose of such a classification is to present the strength and scale of their impact on the development of the city. It is important to demonstrate whether the personal elements, i.e. the human being, together with his or her physical and mental abilities and dispositions, are the main drivers of economic development or the products of work done. And so the factors of a personal nature included a creative capital (human capital of the city, partly cultural capital) and social capital. The components of intellectual capital impersonal included mainly structural capital and partly cultural capital of this nature.

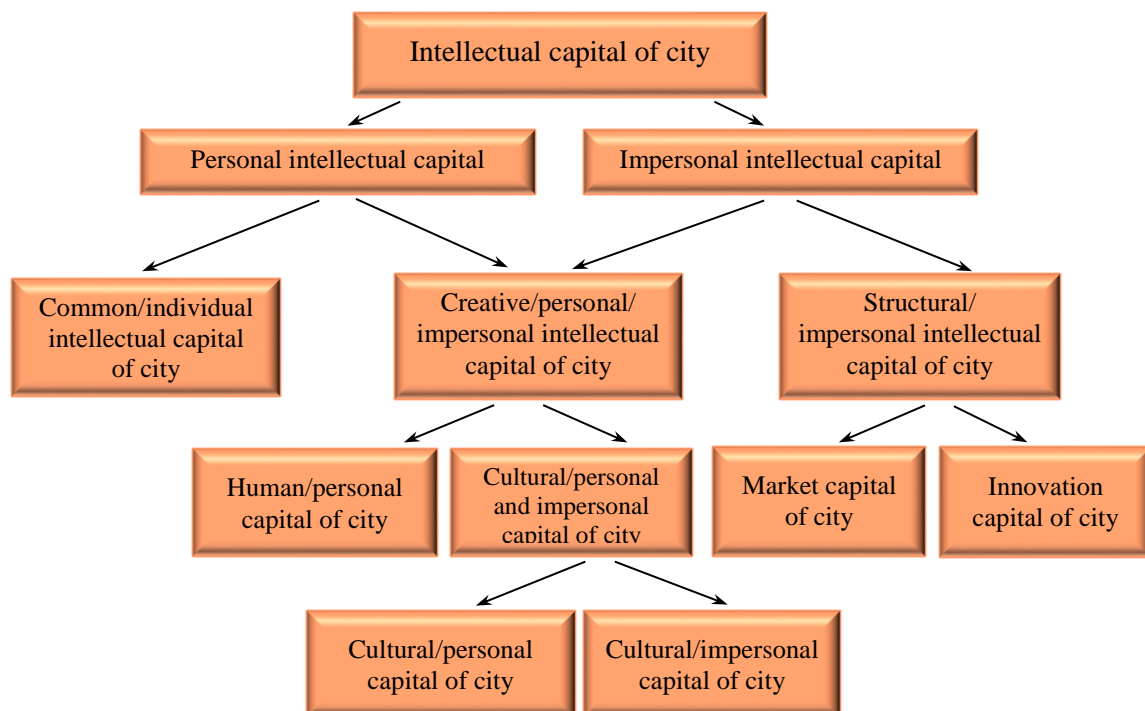


Figure 1. Components of cities' intellectual capital – proposal for the classification (own study)

5. Methods

The paper presents the scope of own research. The subject area of the study includes both theoretical knowledge (literary studies in the field of intellectual capital development) and

empirical studies (conducted surveys and focus group interviews). A common feature of this research was the cyclicity and interdependence of factors searched. Various criteria have been used for their processing. Historical (*ex post*), current and ex ante (*ex ante*) surveys have been used. Their aim was to assess the economic phenomena occurring, as well as forecast. The aim of the research was also to meet the information needs in the scope of assessing the level of intellectual capital development and its impact on the development of the creative sector in Szczecin, Poland. Taking into account the purpose of the study, exploratory, descriptive and causal studies were used.

The survey used closed questions in relation to the topics of intellectual capital development as a factor conditioning the development of the creative sector in the city. In the context of qualitative research, focused group interviews, commonly called focus groups (FGI) were conducted. Accordingly, two hypotheses were defined. *H1: High quality intellectual capital of cities affects the development of creativity in the creative sector entities, and thus the amount of generated by them innovation in the creative city. H2: High quality intellectual capital is a necessary space for the proper development of the creative sector in the creative city.*

5.1. Structure of the surveyed entities

The theoretical considerations were verified by empirical analysis carried out in two research cycles. The first cycle was conducted in the group of 911 employees of creative entities. The purpose of these studies was to determine how material and non-material determinants condition the development of creativity and thereby generate innovation in the creative industries. (The results of the research were published in *A. Sokół 2013, 2014a, 2014b, 2015, 2016a, 2016b*).

Subsequently, 421 employees of creative entities were selected from the group in the first study cycle (2012/2013 and 2014), which in the second stage (conducted in the years 2015/2016) were examined taking into account the conditions of functioning of creative sector entities in the creative city. In order to be able to perform a comparative analysis, 102 employees of business entities were surveyed in January 2017 (these were working students of non-stationary studies), which, according to the literature, are not included in the creative sector.

On the other hand, group interviews were conducted in two groups of students in October 2017. In the first group, 11 students from 19 to 24 years old who were not working but who lived from birth in Szczecin were studied. The second group consisted of people working from extramural studies in the age range of 30–45 years, who work and live at least 10 years in Szczecin (7 students).

5.2. Results and conclusions of quantitative research

By examining the characteristics of intellectual capital in the context of urban development, one can point out that they are difficult to duplicate and imitate, they are also invisible, unmanageable, and the effect of investing in is not long term. Thanks to their flexibility and dynamics and proper use, the value is generated. Unfortunately, their ownership does not guarantee success. Still, the problem is the lack of information as to how to ultimately measure the intellectual capital. In this matter, many actions have been taken but the tools developed are still not uniform and do not collect the knowledge into a comprehensive system.

However, this is not a simple task because they are in fact immaterial. Certain parts of them can be measured and classified, but they can never be given a real value in the literal sense, because it is hard to measure what constitutes a compilation of psychophysical features of a person with his or her wishes, abilities, predispositions and their influence on the development of individual units or territorial aggregates. Hence, in the remainder of this paper, to make

a little contribution to this knowledge, we discussed the issues related to intellectual sources of values and their impact on the development of the city of Szczecin, including the creative sector.

The aim of research presented in this paper is to show **what constituents of intellectual capital determine the development of creative industries**. The decision on the way of conceptualizing intellectual capital and its derivative in the form of choice of indicators was conditioned by the context of the study. In order to be able to better determine the specific nature of these entities in the context of the components of intellectual capital, a comparative analysis was made with entities outside the creative sphere.

Therefore, in the first part of the study, the aim was to determine to what extent individual components of intellectual capital influence the development of the creative sector in Szczecin. It should be recalled that creative capital (collective human capital of the city, partly cultural capital) and collective social capital were included in the personal factors. And the components of intellectual capital impersonal included mainly structural capital and partly cultural capital of this nature.

As a result of collected data analysis can be identified (Figure 2), that for the development of creative sector are important essential elements of intellectual capital, i.e. personal creative capital (39%) and impersonal (23%). In subsequent places there was collective social capital (27%) and then structural capital (11%). It is worth pointing out that the other entities have indicated similar preferences in responding to this question. 37% indicated that personal creative capital was the main source of the city's development, followed by 24% of those surveyed believed that impersonal creative capital influences the state of urban development. The next places were taken by collective social capital (22%) and structural capital (17%: 6% market capital of the city and 11% innovation capital). The data obtained **did not reveal the difference** between the examined in terms of classification of intellectual capital components.

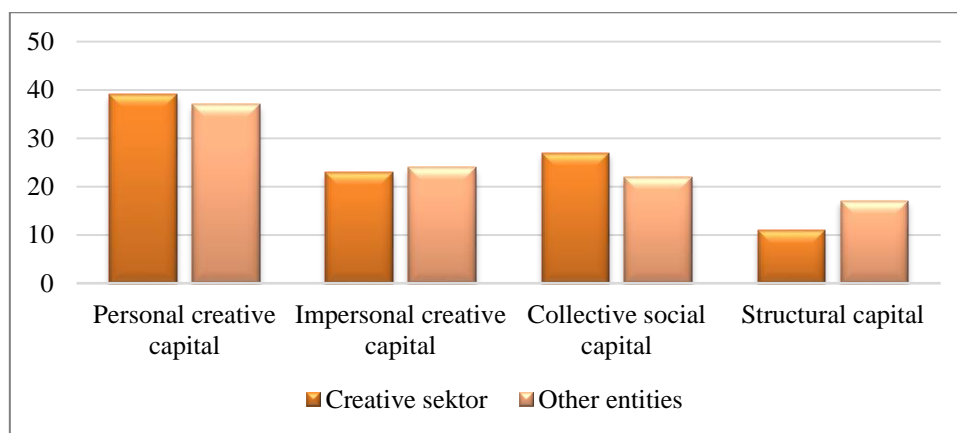


Figure 2. Elements of city intellectual capital relevant to the creative sector development (own study)

Subsequently, respondents in the creative sector were questioned whether they believed that the elements of intellectual capital of the Zachodniopomorskie Voivodship and Szczecin were conducive to the development of creative activity and whether it influenced the development of their creativity in the city and *what is the impact of this influence?* In addition, the response analysis was to provide information on whether collective intellectual capital meets the expectations of people working in the sector. A large group of people, up to 18%, consider the possibility of leaving the creative sector due to the conditions of intellectual capital development as they do not believe that it influences either the development of the entities or their own development. On the other hand, the other respondents declare that the intellectual capital is decisive for both their development and the subject in which they work. About 8% of respondents were unable to answer this question, stating that they had not considered it.

Creative capital in the dimension of personal and impersonal in this paper is attributed to *the ability of people to all kinds of compositions, creations, ideas*, which are basically new or innovative and were not known to the person producing. This might include activity of the imagination or mental synthesis, whose product is not just a summary. It can involve creating new models and combining information from previous experiences, and transferring past relationships to new situations and introducing certain variables into them. It may also take the form of an artistic, literary or scientific production (cultural capital of a high as well daily culture) or be procedural or methodological.

Bearing in mind the above definition, it is assumed that creative capital of a personal nature allows to provide modern, best solutions for the organization. It is a source of innovation and strategic renewal (*Tapsell, 1998*). Thanks to its efficient use, it is possible to redefine the processes, behavior and functioning of an entity. Nowadays, the competence of people who have the proper capacity to act in different situations becomes increasingly important (*Bontis, 1998*). It is people who create knowledge, new ideas, and new products, interact with others, create processes that result in synergy that often results in growth processes of individuals (*Brenner, 1999*).

In this context, the elements of human capital of collective nature were evaluated (Figure 3). **The elements of the human capital structure** are: *qualifications* (knowledge, experience, education, potential for development and innovation), *skills* (leadership skills, ability to learn, ability to build positive relationships with others, strategic thinking, work skills under pressure), *personality traits* (openness to change, flexibility of thinking, willingness to take risks), *attitudes* (motivation, commitment and identification with the company, knowledge sharing, goal orientation), *health*, and *values*.

As a result of research verification of the mentioned human capital identifiers in the city has shown that in **creative sector** namely *knowledge and experience* are highly evaluated in the group of qualification components. The skill categories included features: *the capacity and willingness to learn*, the ability to build positive relationships with others, the strategic thinking, and only then the leadership skills and the ability to work under pressure. Among the features of personality in the first place was *the openness to change*, the flexibility of thinking, while the last was the willingness to take risks. In the group of attitudes, the great importance has the *motivation and work engagement*. Of course, the *health and values* reached the most importance from all the components of human capital.

On the other hand, for the **other entities/subjects**, the highest level of *knowledge and experience* is also assessed; in the skill category, the *ability to build positive relationships* with others is most important; among the personality traits in the first place was *the willingness to take risks*, but the last was the flexibility of thinking. In the group of attitudes, also *the motivation and identification with the organization* are important. *The health* of respondents was of the utmost importance.

Summing up the results obtained in terms of collective human capital, *the differences in the examined groups* were evident in the classification of human capital elements with the ability and willingness to learn and work skills under pressure. In the case of respondents who were representatives of the creative industries, the ability to learn was highly evaluated, and for the other subjects this skill was not treated as such. The situation was similar in the case of the ability to work under pressure. Visible differences were also in the case of openness to change and willingness to take risks.

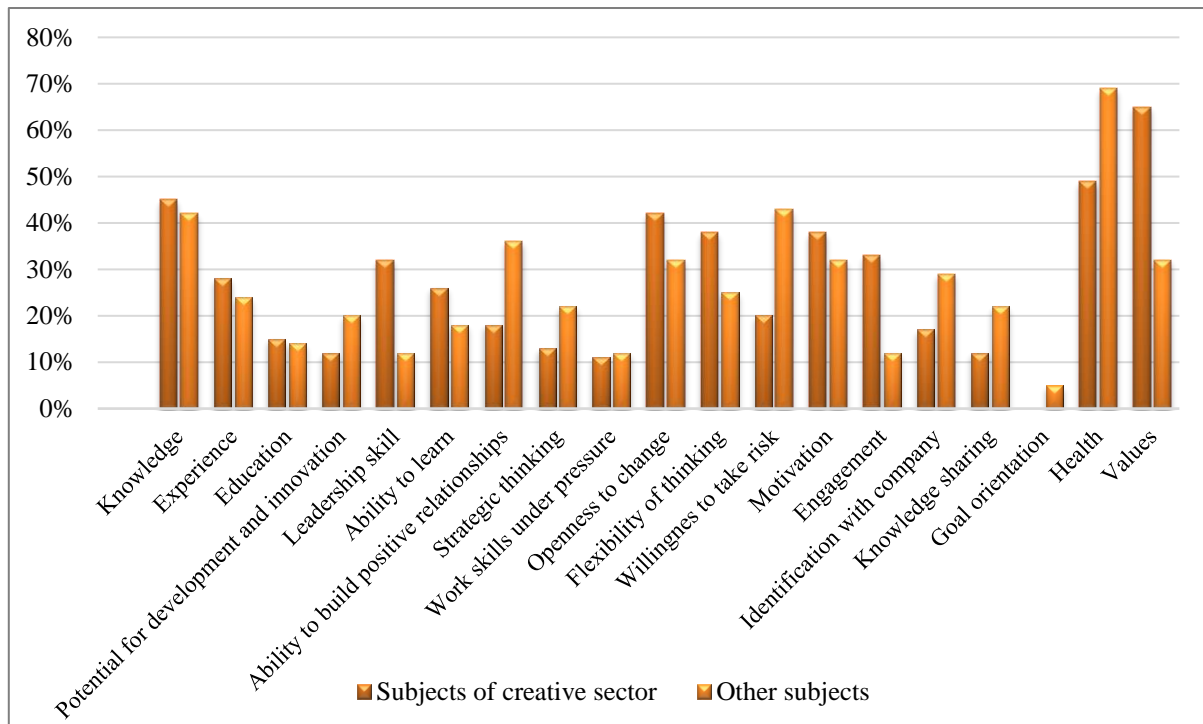


Figure 3. Selected elements of creative human capital city relevant to the development of the creative sector (own study)

Generalizing obtained results it is worth noting that the highlighted features characteristic for people classified as an individual creative capital, are sometimes inconsistent in their classification and have also often *an internal contradiction*. It is difficult to conclusively state that the presented features influence the development of creativity in the regions because the creative processes and their effects are conditioned not only by the characteristics of the creators but also by the environmental conditions (Burke & Litwin, 1992; Schneider et al., 1996; Amabile, 1988; Amabile et al., 1996; Kuenzi & Schminke, 2009), which, as has been proved by many scholars, is significantly correlated with the end result, i.e. creative activity.

Hence, further research focused on selected environmental elements, i.e. **the culture and capital that it creates**. The appropriate conditions of culture were an important determinant of the creativity development, characterized by an appropriate attitude towards the requirements that would stimulate the group of people (Amabile et al., 1996; Hennessey, 2003 in West & Sacramento, 2008). Bearing in mind the above arguments, the study referred to the cultural dimension of creative capital, focusing on personal and impersonal dimensions. This division stems from the process of understanding the evolution of the term culture which has changed over the last several years. It results from the fact that quite recently, at the end of 70s of the last century, culture was consisted almost exclusively of so-called high cultural elements (e.g. outstanding works of literature, painting, architecture), and since 80s, the understanding of the culture has been modified and more and more oriented towards material (objects) and non-material (such as behavior, customs), so-called low culture (Richards, 1996), popular or everyday culture.

The folk material culture (like traditional construction) and ethnic content (such as folk music, customs), as well as monuments of military activity, battle sites and military facilities were appreciated (Weiseenborn, 1997). It makes that almost every social activity of a man can be known to the activities of a cultural nature (Majchrzak-Lepczyk, 2017). Consequently, considering these processes, cultural capital has become a subject of debate in this paper. Regarding to question on which of the above elements of cultural capital influence the

development of the creative sector, both groups of respondents stated that the elements of high culture determine the strongest the development processes. But also important are elements of folk culture, i.e. behavior, attitudes, accepted norms, and norms that condition the positive pro-economic changes.

Another source of intellectual resources for creative organizations is **collective social capital**. Its classical approach was concluded in the works of Bourdieu (1986), Coleman (1988), Fukuyama (1995) and Putnam (1993), who described the basic conceptualizations of the term, and appointed the main areas of research (more in Sokół, 2014a). As a result of the analysis of the collected data it can be pointed out that following elements of collective social capital are important for the creative economy development: help and support, acceptance and tolerance, social bonds, culture and identity, social commitment, responsibility, confidence building, and innovative actions (Figure 4). Other entities/subjects have indicated that the most important determinants of collective social capital are: reciprocity, risk taking, social cohesion, culture and identity, social commitment, ownership, trust and openness.

Comparative analysis showed that significant differences in the responses of the employees surveyed concerned the subcategory ‚positive behavior in the network’ of collective social capital, because the most important element was a help and support in the creative sector, while the reciprocity measures for the control group entities. Data showed another difference between the respondents in the ‚trust’ sub-category; the respondents in the creative sector as the second component important for the development indicated the innovative undertakings, and in the group of non-creative actors, the respondents emphasized openness. Much of the data obtained support the many years of various authors’ research on the impact of various factors that are also included in the collective social capital and their impact on the development of creativity.

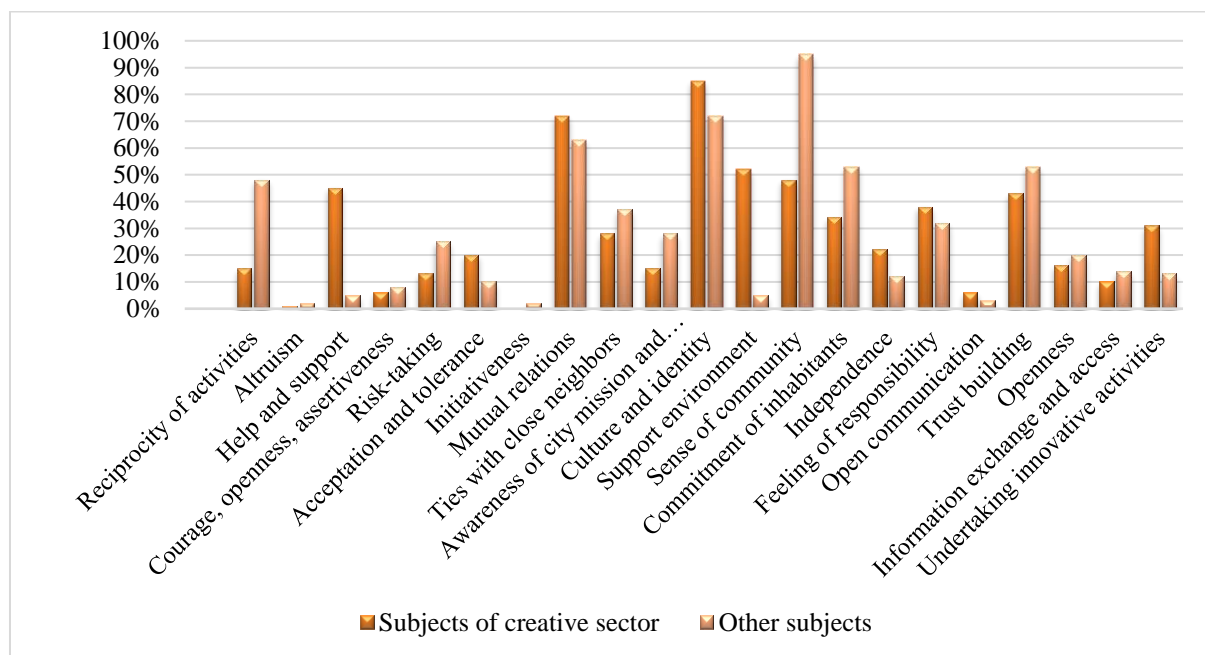


Figure 4. Selected elements of the collective social capital of the city relevant for the development of the creative sector (own study)

It turned out that the positive attitude also influences the right attitude towards the inner motivation, creativity and innovation wherein the applied stimulus should include *three aspects of the environment*. The first is to encourage risk-taking and the creation of new ideas and assessment of the creativity and innovation. The second aspect relates to the proper assessment

of new ideas, while the third concerns the role of management and decision-making and cooperation (Amabile, 1988; Amabile et al., 1996; Hennessey, 2003 in Franková, 2011).

The results of the study also confirm the thesis that the trust mentioned as one of the most important elements of collective social capital plays an important role in the process of creative development in economic entities as well as in creative cities. Many researchers have tried to explain this concept (Seligman, 1997), trying to distinguish the trust from knowledge (Luhmann, 1988), confidence (Giddens, 1990; Seligman, 1997), and faith (Seligman, 1997), and demonstrate the relationship between it and the level of creativity of the group. It turned out that trust is not only a psychological phenomenon like other – it is also a social and cultural phenomenon that in essence determines the creativity.

An important determinant of creativity in the context of collective social capital is the appropriate support of the social group, which was important to the respondents. Referring to this component it is worth mentioning that such support for action should be important in terms of four aspects: diversity, mutual openness of thought and ideas, encouragement of constructive ideas, and shared responsibility (Amabile, 1988; Amabile et al., 1996; Hennessey, 2003 in Franková, 2011). Collaboration and level of competition also affect the level of creativity. It is difficult to determine clearly what kind of cooperation and competition favors the number of generated ideas. There is no clear compromise here, and both the over-competition that causes dysfunctions of a group of people and the absence of them are negative phenomena. One type of studies has shown that competition restricts creativity (Amabile, 1982; Brown & Gaynor, 1967), and others that competition can drive creativity (Torrance, 1965; Raina, 1968; Abra, 1993; Eisenberger & Cameron, 1996; Cummings & Oldham, 1997; Clydesdale, 2006).

Structural capital was examined as the last component of intellectual capital. In its definition, it refers to the ability of organizations developed to meet market demands. This is the knowledge that has been acquired, implanted in the structure of the company, its processes and culture (Petras, 1996 in Kaczmarek, 2014). Literary studies and research have shown that this is a dimension of intellectual capital, especially supporting human and social potential, because it provides all types of systems and procedures for effective use. In this paper, however, its dimension was defined differently. It refers to the city's market capital category and includes within it *the capital of internal relations between stakeholders*: the potential of the city's development stemming from the cooperation of stakeholders, the ability to build relationships win-win, support each other in the process of reaching the goals, and *the capital of external relations*: the potential of city development due to the image of the city, the level of cooperation and integration of the city and its environments with external stakeholders and the country (the central authorities, other cities, business, science, culture, the environment creative – creative class, diaspora, tourists) and abroad (the media cities, business, science, culture, immigrants – including creative circles, diaspora, tourists).

Structural capital components of *the innovative nature* of the city include: the number of economic entities of a creative nature, the number of innovations, and the number of units conducting research and development. An analysis of the value chain is a tool that helps create the basis for managing capital. Authorship research has shown that, above all, proper management of knowledge and creativity contributes to enhancing the value of a creative organization.

5.3. Results and conclusions of quantitative research

In addition to the above analysis, qualitative research was conducted. Within the focus study, there were no significant differences between the surveyed groups in terms of the impact of collective intellectual capital on the development of the creative sector in Szczecin. In order to identify what is, in the opinion of the respondents, the main factor of intellectual capital conditioning the development of creativity in the city and what determines this development,

the respondents were divided in each group into two subgroups of supporters and opponents. Relevant concepts for the correctness of the discussion were explained to the participants.

At first the respondents were asked what they understand by *the concept of the creative sector*. According to the respondents, the creative sector is: entities providing goods or services of a creative nature, sector connected with a culture and providing cultural elements, sector comprising entities related to such activities as advertising, design, and culture. It turned out that 58% of the discussion participants were *able to name the creative industries*. First, they pointed to advertising, design, architecture, research institutions, and culture. Therefore, the respondents were asked which activities they think are *best developed in Szczecin*. Among the answers were: media, architecture, research institutions, advertising, publishing, design, and programming. In both groups, 18 were employed, 4 worked more than 2 years in the creative sector. These were classified as: advertising (3 persons) and design (1 person).

The question of whether the intellectual capital of Szczecin determines the development of creative industries, among the participants' answers was the statement that intellectual capital is a *very important factor influencing development and just it mainly determines it*.

Participants in both panels were asked to *identify the components of intellectual capital* that they believe *play an important role in the development of the creative city*, including the creative industries. The main elements in both groups were: creative personal capital at the first place and the impersonal this one at the second place. Within the creative personal capital, respondents mentioned knowledge and education as the most important. When they were asked why they think so and are asked to argue their position, two people said that: *knowledge is the key to success without it we do not know whether we are progressing and that knowledge provides today with the growth of innovation, the ability to create new innovations; knowledge and in this an education allow the knowledge to be modified accordingly, so that it becomes something which in a new way serves to people*.

By the same token of discussion, however, in terms of skills, particular attention was paid to the ability to learn. For the personality traits that allow for the development of creative industries, the respondents mentioned openness to change. When they were asked to argue their position, the respondents indicated that only those who accepted the changes prepared for these changes and were striving for them were able to make these changes. And among the attitudes, motivation plays the most important role. One of the participants in the discussion stated that *motivation is the main driving force behind all the changes*.

On the other hand, when referring to the *elements of cultural capital*, the researchers considered that important behaviors and attitudes were observed for the first group and the elements of high culture for the second group (working students). Then respondents were asked to respond: Why do they think these factors influence the development of the creative sector? The respondents answered that behavior and attitudes determine whether someone is just open to change, or flexibly thinks and strives for change, or acquires new knowledge and motivation. Otherwise looked answers for the second group: only the elements of high culture shape the attitudes which condition the development of efficient social and therefore economic growth.

Respondents were also asked to indicate which elements of collective social capital are *relevant for the development of the creative sector*. In both groups, the first respondents mentioned: community feeling, social ties. Also, the question was asked in the discussion to indicate why they think so. Their task is that when a person functions in a community that supports and gives security, s/he develops better and becomes more creative and eager to do so.

The last element of intellectual capital, that was asked, was *structural capital*. The potential of the city and its development, as well as its relations with its stakeholders, were particularly important. Led discussion was directed according to the approved scheme detailing the answers. Hence, participants pointed out that without proper development of the city and its corresponding resources, no development is possible, even more so in the creative sector.

Another person thought that the proper potential and development of the city is *the cradle of the development of creativity* and that the city creates conditions for this type of activity or not.

6. Conclusion

The concept of intellectual capital of the city, as a research category, is becoming increasingly popular. There are more and more studies showing the new context of the problem. Despite this, this concept is constantly under-appreciated on theoretical and empirical grounds. Detailed analyses are very rare which include an analysis of the components of intellectual capital as the determinants of creativity.

The conclusions obtained in this study allow to indicate and confirm the Hypothesis 1 in the research that *the higher the intellectual capital of a city, the more it influences the development of creativity in the creative sector, and thus the amount of innovation generated in the creative city*. To some extent, the data confirms *the influence of the city's intellectual capital on creativity*, and without it there is no way for this creativity to develop (the Hypothesis 2 has been positively verified too). The results of the research also confirm the thesis that the important determinants for respondents supporting the development of creativity, including the creative sectors, were primarily creative personal and impersonal capital. It is up to it to develop the city and it is one of the most important elements of the intellectual capital of the city.

With regard to the development of creativity in a given area, whether urban or regional, *local authorities should pay particular attention* to the aspects mentioned above as they are important components of the potential for innovation.

Care for the development of these key aspects also leads to the improvement of the life of the inhabitants of a given territorial area. By enriching the intellectual capital *through various initiatives*, the authorities take care in the context of the long-term development of progress and innovation.

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