Competencies, innovation and entrepreneurship in the theory and practice of management
COMPETENCIES, INNOVATION AND ENTREPRENEURSHIP IN THE THEORY AND PRACTICE OF MANAGEMENT

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Dąbrowa Górnicza 2014
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Introduction

Nowadays, while looking for opportunities to build competitive advantage of companies, three elements are increasingly highlighted: creativity, entrepreneurship and innovation and interactions between them and in their environment. It is believed that the process of increasing the level of creativity among employees and the creation of conditions favourable to generating entrepreneurial attitudes translate into business innovation.

During the research on the value of creativity and innovation in improving the competitiveness of the company, developed rapidly in 1970s, which examined both managerial competencies, as well as the organizational conditions of creativity and innovation, American researchers Siegel, Kaemmere and Kanter noted that innovative organizations are characterized by a specific focus on creativity and innovation: support for their members pursuing new ideas, tolerance for diversity, flexibility, encouragement, trust and autonomy. Also, the strong impact of innovation climate on organizational innovation was observed (“the signals sent by the organization management to employees, including expectations of innovative behaviour”), as a factor influencing the behaviour of individuals. As the research findings indicate, leadership is also crucial in the innovation process. The quality of superior-subordinate relationships and the management style influence the innovative behaviour of employees. In addition, it was proved that the creativity and innovation of employees arise especially in organizations with community climate because it stimulates commitment, intrinsic motivation, self-responsibility and inspires to self-realization.
Creating conditions for strengthening entrepreneurial attitudes and actions and developing creativity, that is the ability to uniquely and originally combine and use skills and the ability to create new ideas, is reflected in the innovation process, and thereby in the effects achieved by the organization. The innovation process is the implementation of innovation in the social system of the organization. In this process, access to a variety of resources, particularly intangible ones, is necessary. This implies the need to care for an appropriate level of education, competencies and innovative behaviour of employees, which result from pro-innovation instruments, rules and management procedures in companies. Innovation, understood as the ability to innovate, requires respect for the subjectivity of the individual, the perception of the employee not only as a carrier of human capital, but primarily as the subject of the innovation process.

The innovative abilities of companies depend mainly on human capital, knowledge and entrepreneurship, the essence of which lies in the search for innovation and identifying new relationships in the economic system as well as characteristics of human capital, competencies of managers and employees supporting company innovation.

Reflections presented in this book focus on several separate areas of interest, linked by the context of innovation. The aim of this book is to identify key areas for effective innovation implementation: managerial competencies, leadership behaviours, creative output and creativity, organizational culture and values. On the basis of these areas, durable internal competencies are built for innovation as a continuous process, and not as an incidental, short-term effort.

In the first part of the monograph titled “Innovative competence, entrepreneurship and creativity in work of a manager”, the relationship between creativity, entrepreneurship and innovation has been analyzed. Entrepreneurship drives change, creativity generates new ideas but it is innovation that combines these two elements. It is where a real process of translating new ideas into specific action occurs. Creative and entrepreneurial activities interpenetrate, creating a broader phenomenon of innovation. In the second part of the monograph titled “Managerial competencies in the contemporary organization”, the importance of intellectual capital, which becomes the primary production factor for of contemporary organization, has been emphasized. This chapter presents the characteristics of competencies that an effective manager in the 21st century should have, as well as the views of a number of recognized researchers in this area of knowledge.
The next chapter titled “The influence of managerial competencies on innovations” has been entirely devoted to identifying core managerial competencies that may promote and support the implementation of innovation in companies. The literature studies and own research helped directly to identify the differences between the current level of managerial competencies needed to achieve organizational goals and the expected level to ensure maximum performance during their implementation. The differences between the expected and actual competencies have been defined as the competency gap.

The next two parts are devoted to the issue of organizational culture. The chapter titled “Organizational culture as a determinant of organizational commitment” presents a discussion about the place of organizational culture in the equilibrium theory, the relationships between organizational culture, organizational structure and strategy implementation, as well as changes in culture in the organization. This chapter introduces the reader to the issues related to building organizational culture that stimulates innovation and creativity in the company.

The chapter titled “The social dimension of innovation” presents social determinants of innovation activities taken in the organizations, in particular human resources, innovation climate and cultural favourable to innovation.

The monograph concludes with chapter seven titled “The issue of innovation activities of small and medium enterprises in Poland”, which describes the phenomenon of innovation among small and medium-sized enterprises in Poland (SMEs). The SME sector is characterized by a dynamic approach to the environment in which it operates and responds quickly to changing needs and preferences of customers, and which due to scarce resources have limited opportunities to become innovative. Small and medium-sized enterprises are forced to innovate because they are under constant pressure of the environment. However, the process of innovation implementation in small and medium-sized enterprises requires support, both financial and knowledge-related support.

The publication includes both the results of literature studies and the findings of primary research, conducted in different thematic areas relating to managerial competencies, organizational culture, and innovation processes at the individual level (senior, middle and operational managers and employees in positions of specialists). The book does not exhaust, which is understandable, the issues of innovation con-
texts and conditions; it can represent a contribution to the discussion. This is of course only a view of a small part of the issues that the author wanted to present as her own reflections.

Katarzyna Szczepańska-Woszczyna
Introduction

Almost all organizations today are faced with a dynamic environment characterized by rapid technological change, shortening product life cycles, and globalization. It is apparent that organizations, operating in this kind of a market environment need to be more creative and innovative to survive, to compete, to grow, and to lead (Gumusluog˘lu and Ilsev 2009). Seeking opportunities to build competitive advantage of companies, three elements are more and more often emphasised: creativity, entrepreneurship and innovation, as well as interactions occurring between them and their environment. It is believed that the process of increasing the level of creativity among employees and creating conditions for entrepreneurial attitudes translates into company innovation. Entrepreneurship is an important source of innovation,
it is as significant for innovation as innovation for entrepreneurship. Creative and entrepreneurial activities interpenetrate, creating a wider phenomenon – innovation.

Creativity, innovation and entrepreneurship are elements of managerial competency, increasing the effectiveness of managers in conditions of the dynamically changing environment. Creativity is a necessary, but not sufficient condition of the innovation. Innovation can implement creativity in organizational processes, products and technologies. Pro-innovation attitudes can be reinforced by strengthening creativity of the individual. As the research findings indicate, there is a relationship between creativity of the individual and innovation of the company.

Decisions and choices that senior managers take influence company performance depending on how they assess the environment, what strategic decisions they take and how they support innovation (Besant and Tidd 2011). The impact of leadership on company performance is estimated at 15%, while the choice of strategy on additional 35%. In total, this means that the influence of leaders on performance of the company they manage is about 50%. Thus, the activity of both managers and employees must be full of imagination and creativity. In the course of research on the value of creativity and innovation in improving competitiveness of the company, rapidly developed in the 1970s, which focused on both managerial competencies as well as organizational determinants of creativity and innovation, American researchers Siegel and Kaemmere and Kanter noted that innovative organizations have a specific focus on creativity and innovation: support for its members implementing new ideas, tolerance for diversity, flexibility, encouragement and trust and autonomy. Also, the strong influence of innovation climate on organizational innovation was recognized (“the signals sent by the management staff of the organization to employees, including expectations of innovative behaviours”), as a factor affecting the behaviour of individuals (Nawrat 2013). As the research findings indicate, leadership is of crucial importance in the innovation process. The quality of superior-subordinate relationships, and leadership style affect the innovative behaviours of employees. Moreover, it was proved that creativity and innovation of employees are triggered especially in organizations with community climate because it stimulates motivation, internal motivation, self-responsibility, and it inspires self-fulfillment.

It is entrepreneurship that determines survival but above all, the development in a competitive environment, Creativity and organiza-
tion of work (both own as well as teamwork and organizational work) are necessary for the successful development of the company. Creativity allows you to discover new solutions, new opportunities, find ways to effectively implement them to fulfill the needs. Good organization of work makes it possible to achieve objectives in an effective, efficient and economical way, to use its potential better (Antoszkiewicz 2013). Both creativity and organization of work must be part of clearly defined directions of company development.

The relationship of creativity, creative output and innovation

Creativity can be defined both on a macro scale, specifying the essential social issue, and above all, on a scale of an individual, which means:

- the ability to think creatively,
- the man’s ability to come up with new ideas, concepts, or new associations and links with the existing ideas or concepts,
- a characteristic of every human being, which can be improved or inhibited,
- manifestation of the ability to see unconventional ways of solving organizational problems, the size of creative ideas associating a wide range of facts, phenomena and trends from different areas of the organization operation and its environment (Hys 2010).

Innovation can be examined in substantive and functional meaning. In the former one, it is the result or outcome, the result of applying progress and knowledge (along with those activities preceding the outcome). Innovation in functional meaning is the innovation process, that is all the changes leading to the development and creation of innovation (examined from the point of view of economy, a company or a single innovation). The innovation process, in broad terms, consists of two phases: the creation of innovation and the dissemination of innovation. The former is closely related to psychology of creativity, including creative problem solving, a creative way of responding to the problems encountered, both internal and external (Knosala et al. 2011).

The relationship between creativity and innovation was first noticed in the 1960s. An individual stopped to be treated as passive and imitative, but he or she was treated as more active and empowered. Also, a consequence of linking the micro – area with the wider processes such as globalization, the concept of intellectual capital, knowledge
management was departing from presenting creativity narrowly as a characteristic of the individual. Instead, it was presented in a broader context – the organization, institution or as components and factors of pro-innovative development. Moreover, the role and importance of the relationship between individual creativity and innovation of group, teams, organizations (in the context of their professional activity) increased. Creativity and innovation became the domain of everybody, involving people taking daily professional activity, and not only unique, special and sophisticated quality of eminent individuals (Drozdowski et al. 2010). The classic theories of Maslow, Rogers, Fromm and May, treating creativity as a human need, an expression of self-fulfillment, underlay this understanding of creativity. According to R. Florida, the employment structure is changing – there is a transition from blue and white collar workers to no collar workers – the development of “creative class” of people, whose work is based on generating new knowledge, creating information or broadly understood new forms, which have high autonomy of actions undertaken and substantial freedom of operation in common. This class includes journalists, artists, scientists, new technology employees, advisors, consultants, teachers (McGranahan, Wojan and Lambert 2011). Also innovation is perceived differently – not only from the point of view of its measurable results (new products, processes, services or organizational and managerial changes), but also personality competences of its creators (e.g. employees) are taken into account. However, the difference between creativity, creative output and innovation should be highlighted. Creativity as such may be limited to the idea itself and does not necessarily result in benefits for others. Creativity can actually make the idea appear in our mind as a flash of inspiration, but it remains worthless until it is implemented. Then it has a chance to become an innovative product. Creative output is characterized on the one hand by actions taken by individuals, being a response to specific problems, on the other hand it refers to the effects of these actions, recognized as creative in the field. Innovation refers to the implementation of new ideas and introducing new solutions into practice in the environment. Innovation is the successful and intentional implementation of creativity (Amabile 1983, 1998; Amabile et al. 1996). Thus, innovation requires creativity, but creativity does not always lead to innovation. Innovation cannot end at the conceptual stage – a result must appear. Activities increasing innovation can be strengthened by enhancing individual creativity. Relationships between the concepts of creativity, creative output and
innovation were characterized by M. Stasiakiewicz, who presented the course of the process – from creativity as an individual’s competence, through his or her actions and behaviour (creative output) to the effects understood as the possibility of application solutions (Figure 1).

Therefore, creativity in the organization refers to the potential of humans, persons, employees – their style of functioning and the potential capabilities of solving problems. Creative output refers to the updated capabilities of an individual in the form of specific solutions to the problems. Innovation is associated with a possibility to apply the solutions in a specific context, understood – in a broader sense – as the organizational context (associated, for example, with the culture of the organization, its structure, values, goals, rules), and in the narrower sense, in the context of the task while determining the degree to which an innovative solution meets the necessary criteria of usability, realism, budget, etc.

Figure 1. The relationship between creativity, creative output and innovation

**CREATIVITY**
Openness and cognitive curiosity, tolerance for ambiguity, internal motivation – being the basis of a relatively permanent ability of an individual to generate new ideas and solutions; **Creativity in the organization** refers to the potential of human beings, persons, their style of functioning and the potential possibilities of solving problems.

**CREATIVE OUTPUT**
It characterizes actions taken by individuals in response to specific problems, and refers to the effects of these actions, recognized as creative in a given field. **Creative output in the organization** refers to capabilities of individuals to present specific solutions to the problems.

**INNOVATION**
The effective implementation of new ideas and applying new solutions in practice in a given environment; **Innovation related to the possibility of applying new solutions:**
- in a broader sense, in the organizational context (e.g. associated with the culture of the organization, its structure, values, goals, rules),
- in a narrower sense, in the context of the task, determines the degree to which an innovative solution meets the necessary criteria (of usability, realism, budget, etc.).

Source: (Drozdowski, et al. 2010)
In a study by Hunter and his colleagues (Mockałło 2010) on the analysis of the relationships between different dimensions of organizational climate and indicators of employees’ creative behaviour, the analyzed factors that create the climate for creativity include: positive employee group, positive relationships with superiors, resources, challenge, clarity of the goal, autonomy, positive interpersonal exchange in a workgroup, intellectual stimulation, the support of senior management, reward orientation, flexibility and risk taking, the emphasis on both quality and original ideas, participation, and organizational integration. The factors affecting the relationship between creative climate and the outcome of creative work include:

- job characteristics (expectation of generating new ideas; a type of innovation; stage, where innovation, internal and external motivation are used),
- characteristics of the group (teamwork, the group size, a sense of unity among the group members),
- characteristics of the organization (resources of the organization, the degree of professionalization, organizational structure),
- characteristics of the environment (to determine whether competition in the sector was based on launching new and innovative products; competitive pressure; the results achieved by the competition).

Barriers inhibiting the creative process should be also identified. These include, inter alia:

- anti-creative belief or perception of oneself as a person who is little creative, incapable of innovative thinking (it results in not starting a creative process),
- not recognizing the goals, or the inability to detect and formulate problems (as above),
- impatience (causes premature termination of the creative process),
- mental barriers, mental inertia, or reluctance to explore, rediscover also other strategies of action, other creative methods than previously applied (they limit the creative process),
- schematic thinking, a perceptual barrier, a barrier in spotting creative problems and following standard ways and known solutions (as above),
- excessive knowledge (as above) (Knosala et al. 2011).
Creativity and creative output of managers

According to E. Nęcka, the concept of creativity includes not only the features of the intellect, but also motivational aspects and personality qualities (Nęcka 2000). The concept of creative human capital (i.e. capable of generating new/original solutions, also valuable in cognitive, aesthetic, pragmatic or ethical terms), both in the macro – and micro-scale, refers primarily to employees and managers (Nęcka 2003).

Creative thinking can be understood as associating things or ideas, among whom no relationship has been perceived before. Creativity manifests itself in the willingness and ability to apply knowledge to solve new problems, create new ideas and invent original solutions. It is a creative and innovative approach to issues. Activity of a manager cannot be conventional, as following beaten paths is in fact a road to nowhere, therefore creativity is especially required as one of the skills the modern manager has.

Creativity is the ability to apply knowledge to solve new problems. Creative thinking takes place in decision-making in business, being a phenomenon of stimulating new ideas, reformulating existing knowledge and analyzing assumptions in order to formulate new theories and paradigms. This process includes revealing, selecting, exchanging, sharing and connecting facts, ideas and skills (Korkosz-Gębska 2014) (Fig. 2). Creativity is neither an enigmatic process or a unique trait characteristic of only few persons. It can be learnt and one's competencies can be consciously built and developed in this area (Epstein, 2000). Creativity helps develop innovative products and solutions, it makes it possible to develop non-standard action methods, which, as a result, allows companies to stand out in the market. However, creativity is not art in itself, it must be an element of the whole system of the company functioning and the organization’s way of thinking, otherwise such new solutions will be developed that are understood only by a few people, but unacceptable to customers. Creativity must be also linked with disciplined action as creativity without systematic action and operational efficiency makes that an idea, concept or a vision is the creator’s unfulfilled dream.
Creativity is the result of the interaction of intellectual competencies, creative talents, personality traits, and the widely understood socio-cultural and economic environment. In organizational practice, creative competencies mean the ability to continuously learn new values and solutions and new ways of acquiring and transferring knowledge (Morawski 2004). E. Steiner and R. Weber (1993) attribute a dominant role to the creative skills of managers, including:

- the ability to generate a large number of ideas in a short time,
- constant search for new solutions,
- originality - creating innovative connections and ideas,
- the ability to choose the optimal solution,
- perseverance in overcoming difficulties,
- motivation as a problem and a challenge,
- vigour and efficiency,
- consistency, regularity, courage
- tolerance and respect for different opinions,
- avoiding taking a stance on a matter too early,
- openness to criticism,
- relativistic view of reality,
- independence of judgments (Nawrat 2013).

In their studies, J. Szopiński and E. Karaś (2009) found that managers with high creativity are future-oriented. They have an optimistic and positive attitude towards themselves and the world, which is manifested primarily in the conviction of the possibility to achieve their own goals in life, as well as in the insistent and persistent pursuit of the goal, looking for strength in themselves first and foremost.
According to T.M. Amabile (1989), the possibilities of using creative potential of individuals and accomplishments that matter depend on three main components:

- autotelic motivation (which can be shaped by assigning people to solve unusual tasks, free from constraints and limitations, solving of which can give joy and satisfaction),
- field-related capabilities (developed in the course of formal and informal education),
- creative abilities (which can be developed during training).

According to K. Urban, the following are important in developing a creative manager:

1) cognitive components:
- divergent thinking and action (i.e. to restructuring and redefining)
- general thinking and basic knowledge (e.g. logical thinking),
- specific knowledge and skills (including special abilities),

2) components of personality:
- concentration and commitment to the task (including selectivity),
- motives and motivation (e.g. a need for control),
- openness and tolerance of ambiguity (humour and others).

The nature of work has changed, and many workplaces need to reflect that. The old way is to divide each part of a business into subparts and have teams organized around their own home ground. The creative approach is different. Its goal is to help managers think about wider systems, interdependencies and interconnectedness – throughout the company and the marketplace and beyond. Creativity is about putting empathy to work. Creativity is a means to solve complicated problems.

**Innovative competences of managers**

According to the concept of the knowledge-based economy, it is rather knowledge and continuous innovation and not only financial capital that are becoming key success factors. Innovation is a factor increasingly determining the economic processes taking place in the modern economy. The ability to create new ideas is crucial for the existence of modern organization, manager’s effectiveness and professional success of each employee. Issues related to innovation depend, inter alia, on phenomena and processes of social, psychological and cultural nature. These processes may be reinforced or shaped by appropriate measures and tools, influencing, for example,
the strengthening of attitudes favourable to the development of innovation (increasing openness to change, increasing the acceptance of risk, etc.) Planning actions and instruments, however, requires knowledge of the sources of innovation, including the factors determining innovation of an individual – a participant in the socio-economic processes (employee, manager, entrepreneur). It is also necessary to have knowledge of the mechanisms by means of which the individual’s innovation affects the growth of competitiveness of companies, institutions and the entire economy. Innovation depends on both individual skills of each person and on the environment a man acts in.

Introduction of innovation has become one of the ways of searching new sources to ensure competitive advantage – not only of large companies, but also small and medium-sized enterprises. Companies increasingly recognize the need to develop and implement innovations, resulting, inter alia, from shorter and shorter product life cycles. Research shows that companies that successfully implement and manage innovation achieve higher revenues and better financial performance than their competitors in the market (Bessant, Tidd 2011). However, the condition for success is innovation of the organization understood not as an incidental event, but as developing new competencies and undertaking new activity in the long term. Innovations do not happen “by accident”, but they result from a systematic and structured change management process. This requires chief executives to have competencies supporting innovation, to have a new approach to leadership, to resign from the traditional stereotype of perceiving a leader and a manager (Sitko-Lutek 2013) (Table 1).

<table>
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<tr>
<th>TABLE 1. Traditional leadership and innovation-oriented leadership</th>
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<td><strong>INNOVATION-ORIENTED LEADERSHIP</strong></td>
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<tr>
<td>Long-term perspective</td>
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<tr>
<td>Formulating a vision</td>
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<tr>
<td>Taking a risk</td>
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<tr>
<td>Exploring new territories</td>
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<td>Initiating changes</td>
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<td>Building commitment</td>
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<tr>
<td>Encouraging diversity</td>
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<td>Referring to passion</td>
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<td>Moral action</td>
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<td>Innovation orientation</td>
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<td>Employee as a strategic resource</td>
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<tr>
<td>Building long-term relationships with the customer</td>
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<td>Manager-leader</td>
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Source: (Sitko-Lutek 2013)

Work space is for managers an important learning environment; they are, on the one hand, created by this environment, on the other hand, they shape it (Dacko-Pikiewicz 2008). Therefore, it depends on their competency and “innovative intelligence” whether the team they manage and work environment are innovative or not (Nawrat 2013). People find it difficult to accept organisational change and innovations unless such implementations are accompanied by the appropriate approaches, processes and procedures (Kożusznik 2002). Many researchers highlight a significant role of culture and organizational climate, conducive to innovation and adaptation to changes. Innovative climate is strongly related to competencies of managers.

According to the respondents, an innovative manager is competitive, constantly seeking, constantly introducing changes and improvements, communicative and has good interpersonal skills, is able to inspire subordinates, to listen to their opinions and recognize good ideas. Two main factors influencing innovation competence development include: subjective factors (predispositions, traits, abilities, personality type, personal and social competences), which are considered most important and working environment (Nawrat 2013). An indispensable element of effective change management aiming to implement innovations is entrepreneurial skills as a kind of “package”, which consists of the following skills:

- highly developed understanding of the process and its various components,
- project planning and management,
- teamwork skills in uncertain conditions,
- leadership – having a vision and the ability to implement it,
- learning skills – the ability to analyze, identify positive and negative events and their causes, the ability to correct the process on their basis of (Bessant, Tidd 2011).
The research conducted by R.M. Kanter among 165 executives of five major corporations in the United States shows that managers – innovators should be characterized by:
- the ability to sense the needs, anticipate change and a positive attitude to them,
- determination (careful planning of activities and tenacity in action),
- the ability to combine the overall vision with attention to every detail,
- participative leadership style,
- stubbornness combined with persuasion skills and tact (Oleksyn 2010).

According to the research conducted by T. Copp, innovative managers associate competencies with: interpersonal competencies, interpersonal intelligence, interpersonal skills (motivating), experience, openness, communication skills and leadership skills (Copp 2011).

M. Lis highlights the importance of competencies related to quality management in companies (Lis 2012).

However, it should be noted that every innovation is a change that will not be accepted by all employees. Resistance to change can be minimized, if the manager promotes innovation, combining the qualities of a promoter of power and a professional promoter. The promoter of power favourably supports the process of innovation through its potential resulting from the hierarchy, the professional promoter supports this process with expertise. Structures that promote autonomy and independence are favourable to the implementation of innovations. According to the theory of a social psychologist Serge Moscovici, creative minority has an impact on the conformist majority. Creative minorities, which have well-established ideas about what they want to achieve, push through innovation in the wider group. This process takes place in three phases. In the initial phase, a coherent and substantial minority group confronts their ideas with the majority group. In the second phase, the message of the minority is repeated and spread. In the third phase, the majority eventually take the view and practice of the minority. The role of the promoter is to support such innovative minorities (Dąbrowski).
Entrepreneurship and innovation of a manager – the relationship between the concepts

Combining the concepts of entrepreneurship and innovation derives from the views of J. Schumpeter. Schumpeter saw entrepreneurship as introducing changes called innovation (Brouwer, 2002), which included the activity of introducing new combinations of factors of production, new products and methods, entering new markets and gaining new sources of supply and creating new, more efficient organizational forms of economic activity. According to these views, entrepreneurship is associated directly with innovation and entrepreneurial activities result in innovation. Treating these two concepts jointly can also result from the statement by P. Drucker (1992) that innovation is the specific tool of entrepreneurs. Entrepreneurship has the characteristics of the process as a result of which innovation is transformed into market opportunities or creating competitive advantage. Innovation here is the result of entrepreneurial behaviour and entrepreneurial strategies in the organization (Bratnicki and Strużyna, 2001). The views by I. Kirzner that entrepreneurship is the perceptions and use of opportunities are strongly emphasized in the literature (Chodyński 2008).

Entrepreneurship refers to the willingness and ability to face and solve new problems in a creative and innovative way, taking into account the associated risks, the ability to use the available opportunities and flexibility to adapt to changing conditions (Drucker, 1992). It can also be understood as “the willingness and ability to initiate and implement new, bold actions” (Tyszka, 2000). Entrepreneurship is thus a collection of traits and behaviours identified with resourcefulness and taking initiative, which is attributed to entrepreneurs – managers. It is examined in two contexts as: a set of characteristics that describe a certain way of the man’s conduct, which is distinguished by: dynamism, activity, willingness to take risks, the ability to adapt to changing conditions, perceptions of opportunities and taking them, creativity and innovation, an act of creating and building something new, an organized action process oriented at using innovative ideas in order to generate benefits in the market (Hys 2010).

The managers possessing adequate entrepreneurial competencies support new venture creation, survival and growth (Boyatzis 1982; Bird 2002). In academic research, entrepreneurial competencies have been understood in terms of vision to spot business opportunities, understanding market drivers and competitors, the ability to
work independently and taking proactive measures to achieve their goals, optimizing processes, motivation, activity in taking actions, effectiveness (Brophy and Kiely 2002; Baum and Locke 2004; Korpsa 2013; Klamut 2013). Entrepreneurship is a contradiction of terms such as “repeatability” or “imitation” (Chodyński 2008). Jena and Sahoo (2014) suggest that entrepreneurial competencies play a pivotal role in influencing performance of the executives within the organization. The managers should possess keen business knowledge, spirit of competitiveness for managerial growth and survival, as well as need to focus on certain crucial dimensions of leadership. Also, the importance of experience gained in establishing new companies, technologies learnt, acquired knowledge or the possessed intellectual potential is highlighted. The role of learning of both individuals and the entire organization is increasingly emphasized. The context of entrepreneurial behaviour is discussed, while taking into account its situational character (Chodyński 2008).

Conclusion

By combining three elements: creativity, entrepreneurship and innovation, an interesting relationship between them is achieved: if creativity is generating new ideas and entrepreneurship is initiating changes, innovations are a binding element – that is, the process of transforming new ideas into action. Creative and entrepreneurial activities interpenetrate, creating a wider phenomenon, which is innovation.

Creativity and innovation are the activities by which a company aims to succeed in the market, as well as components of managerial competencies increasing effectiveness of managers in the dynamically changing environment. Creativity is perceived as a necessary condition (though insufficient) of innovation (insufficient as not always creative thinking and action produce results in the form of innovation). Creativity is the ability to ask the question how you can do something different, better combined with the ability to design changes in the organization. In contrast, innovation can be defined as the realization of creativity in organizational processes, products, technologies, etc. A specific link between creativity and innovation is the pro-innovation attitude, i.e. a real interest in implementing creative ideas combined with willingness to take responsibility for the operationalization and implementation of the project. Pro-innovation attitudes can be strengthened by enhancing individual’s creativity. In times when change is a permanent element of business, creativity and innovation are a must.
Research shows that creative people cope better in a changing and uncertain environment, they recognize new opportunities, and they are able to transform reality creatively. Entrepreneurship, however, emerges and develops under certain conditions, which may be called innovative. Entrepreneurship is an important source of innovation development.
MANAGERIAL COMPETENCIES IN THE CONTEMPORARY ORGANIZATION

Introduction

The processes of globalization are changing the conditions of competition. The role of intellectual capital is increasing, which becomes the primary factor of production. The basis for building the modern business strategy is competencies resulting from learning, experience, entrepreneurship and intellectual capital, as well as skilled employees and managers with knowledge and skills to design modern organizational systems, with knowledge of management methods and techniques enabling them to meet ever increasing customers’ expectations, and with the ability to create, share and use knowledge (Hejduk, 2006). A high level of organization is primarily the result of excellent management of competent managers, who effectively use the company resources by making changes (innovations), envision and create innovative products and services in organizations.
In the light of changing expectations and an employee model, currently a manager plays a variety of roles: a leader, facilitator, animator, coach, mentor or trainer, and their task is to: coordinate, diagnose and bring out human potential, moderate, stimulate, create, initiate, and to motivate. The level of convergence of competencies possessed by managers with competency needs of the organization arising from its specific character will determine the effectiveness of the implemented strategy. A competency profile of the 21st manager includes competencies closely related to the cognitive functioning (e.g. the ability to analyze, synthesize, and solve problems) to the competencies related to the functioning in the community (interpersonal skills, communication skills, the ability to motivate others).

The essence of forms and models of modern companies operation is their ability to design business processes in such a way that they create new value added in terms of quality. The primary method of their operation is to differentiate the market offer, to create, measure and manage value of companies, customers, shareholders and stakeholders (Herman, 2006). The new models of organizations appearing as a result of globalization processes, operating in an increasingly competitive environment force one to reflect on how efficiently and effectively shape the competencies of managers of modern organizations. Are managerial competencies adapted to the requirements of modern organizations in the face of changes? A characteristic of modern business is the consensus of opinions on the increasing requirements that managers face (Koźminski, 2008; Drucker, 2004; Nogalski, Śniadecki, 2001). The quality of professional activities taken by managers is determined by many factors, especially by competencies, which play a major role.

Managerial competencies and the theory of company development

One of the important aspects of the company functioning is the behaviour of managers. This aspect is reflected in the basic concepts of the modern theories of the firm, which include the managerial theories of the firm¹. The relationship between managerial competencies and the theories of company development can be justified by the relation of implication: these theories define the mechanism of the

¹ In addition to the neo-classical theory of the firm, the behavioural theory of the firm, the theory of agency, the theory of property rights and the theory of transaction costs
company functioning, objectives, methods, resources, which determine the quality of the managerial functioning. A specific mode of the managerial functioning is the derivative of managerial competencies possessed. Managerial competencies in the above meaning are secondary to the theory of company development because their functioning is the consequence of the goal and methods of the company functioning.

Managerism assumed the objective of the company functioning different from the traditionally accepted, i.e. to maximize the profit. The main creators of the managerial theories of the firm did not develop one common position on the overriding objective of economic entities operation, but they were all convinced that companies pursue differently defined objectives of their managers (Postrach, 2004, 171-181).

The managerial theories of the firm include:
- the Marshallian theory (Marshall, 1920), according to which the management function (managerism) is the fourth factor of production in addition to land, capital and labour;
- the Berle and Means’s concept (1932), emphasizing the separation of ownership from management in the company;
- the Marris’s theory (1964) highlighting the priority position of the manager in creating the goal, borders and the nature of the firm;
- the neo-Keynesian theory (Kalecki, 1967; Andrews, 1964), emphasizing the superiority of managerial decisions over the automatism of marginal solutions;
- the Bain’s concept of industrial organization economics
- the Baumol’s theory, in which managers seek to maximize the size of the enterprise by expansive managerial decisions;
- the Galbraith’s theory regarding technostructure, that is managers at various levels who decide about the behaviour of firms (the behaviour of managers at different levels with different interests);
- the Drucker’s theory regarding the key role of managers in the success of the company (Noga, 2009).

All the theories assume that the main role of the manager in the company results from the growing importance of professional management in companies and the dispersal of ownership in increasingly complex organizations (the separation of the role of the owner, entrepreneur, manager and customers in the company). Managers can be entrepreneurs, but they can also be just technocratic administrators. Successful company management is the function of leadership oppor-
tunities, and mastering management skills, methods and techniques by managers. Managers “have a key” to effectiveness (allocation, creation, negotiation, value), but they do not have to have sufficient motivation to use it (e.g. in the case of poor ownership supervision, the lack of manager market etc.).

The authors of the best-known theories of the firm such as W.J. Baumol, R. Marris, O. Williamson, A. Wood and others assume, based on the empirical observation of the process of transferring decision-making powers to managers by the owners of large companies (corporations), that in contemporary companies, most often functioning as capital companies, there is a clash of economic interests between managers and capital owners. The separation of the management board function from the ownership function in a company often results in the conflict of interest, and it has become more difficult for shareholders to control managers effectively, especially under conditions of the high fragmentation of the shareholder ownership (Micherda, 2009).

The theory of maximizing sales revenue by W.J. Baumol, associated with the theory of utility, assumes that a manager builds, consciously or unconsciously, a situation when their utility, importance, and the feeling of being essential are maximized. According to Baumol, the most probable goal of managers is to maximize sales revenue because: the earnings of the management board mostly depend on sales, not profits, personnel problems are easier to solve when company revenue grows; high and growing sales revenue guarantees the board high prestige, high and growing sales give the company strength to apply different competitive strategies (Kozłowska, 2006; Baumol, Blinder, 1985). Also, banks and financial institutions that grant loans pay attention to the volume of turnover (Jasiecki, 2002). The maximization of revenue understood in this way has certain economic rationality and should be taken into account in the issue of the development of managerial competencies.

The managerial theory of the firm by O. Williamson challenges the profit maximization as the goal of large modern corporations, in which, as a consequence of an increase in their size and complexity of management processes, ownership is separated from management and control and thereby the function of professional management is transferred to managers. The analysis of joint stock companies functioning as the basic organizational and legal form of business entities in the modern economy reveals that business decisions are mostly affected by managers rather than shareholders as the owners of capital. Man-
agers with a large range of decision-making powers, which are discretionary, can formulate and implement alternative objectives in relation to profit preferred by shareholders. In the case of this model, profit is only restriction to the freedom of managers, as shareholders require a minimum profit paid in the form of dividends, otherwise the security of manager job is threatened. Managers do not have a neutral attitude with regard to the various categories of costs; they prefer some expenses, inter alia related to: 1) administrative staff (the more numerous staff, the greater professional prestige of managers and their job security), 2) the possibilities of using luxurious offices, company cars, access to preferential loans and credits, etc. (as an additional possibility of increasing discretionary income), 3) expenses including special capital expenditure at the disposal of managers and for the development of the company. Thus, the objectives of modern companies are closely related to the function of managers’ utility, which consists of managers’ remuneration, power, status, prestige, professionalism and job security (Niemczynowicz, 2008; Williamson, 1986).

Nowadays, a manager is required to have both skills acquired e.g. in the course of training, as well as some specific or innate psycho-physical characteristics. A manager in the modern organization must also be ready to perform diverse, non-standard tasks. Due to the increasing dynamics of socio-economic processes in a changing micro- and macroeconomic environment, the manager must also have the ability to act effectively in this environment. A person who is mentally weak, poorly motivated or unable to respond quickly to changes will not turn out to be good here (Jarmołowicz, Kościński 2003). Therefore, company management and people management require specific competencies.

Managerial competencies – the issue of meaning

A competency is an area of knowledge or skill that is critical for producing key outputs (McLagan, 1997). They are internal capabilities that people bring to their jobs – capabilities that may be expressed in a broad and even infinite array of on-the-job behaviors. Competencies are the foundation of the modern organization’s human resource management function and are typically expressed as a competency model (Gliddon 2006).

In the literature, two trends of defining competencies are presented: the first one is the definitions relating competencies directly to the person they refer to, therefore they define knowledge, skills, respon-
sibilities or powers, equating them with a set of behaviors that some people master better than the others, so in a given situation they act more efficiently, as well as abilities, interests, personality traits as the parameters that differentiate individuals (Hayes 1979; Burgoyne, 1989; Boyatzis 1982). The second trend is the definitions relating this concept to the job or position and treating competence as the characteristics of action relativized to perform actions efficiently, to fulfill the functions of the organization. This division also reflects a differentiated approach to the definition of managerial competencies in the USA and the UK. The first of these trends (identifying competencies with the characteristics of a manager who performs his job very well) is characteristic of the American approach (White, McClelland, Barrett and Depinet), the other one (competence identified with the final outcome and standards) – of the British approach (Mansfield and Mitchell, Frank Miller) (Delamare Le Deist, Winterton, 2005). Woodruffe (1991) offers the clearest statement, contrasting areas of competence, defined as aspects of the job which an individual can perform, with competency referring to a person’s behaviour and underpinning competent performance. Woodruffe’s definition is endorsed by Tate (1995b, p. 86) who warns against confusing input competencies with output competences. Armstrong (1998) distinguished between the concept of “competence” and “competency”. In his opinion, “competence” describes what people need to be able to do to perform a job well, “competency”, in contrast, is defined in terms referring to those dimensions of behaviour lying behind competent performance. These are often referred to as behavioural competencies, because they are intended to describe how people behave when they carry out their jobs.

Competence is a kind of theoretical term that, however, does not exist in isolation from the level of behaviour. It is a concept that unifies different behaviours – competence can only be inferred based on a set of observable behaviours (Filipowicz, 2004, p. 18). It should also be noted that almost all approaches presented in the literature represent the perception of competence in terms of efficiency: they highlight the output, the result of applying competence, emphasizing the relationship between the competencies and the efficiency of action.

Managerial competencies are a combination of the manager’s professional knowledge, acquired skills, experience, traits and the proper attitude and motivation to act. Lévy Lévy-Leboyer (1997) believes that competencies refer to the integrated use of abilities, personality traits, as well as knowledge and skills to complete a task successfully. According to Rakowska and Sitko-Lutek (2000) and Filipowicz
(2004), competency can be defined by three components: knowledge, skills and attitudes. Rostowski (2008) includes the following elements in competency: talent, skills and abilities, knowledge, physical skills, style, personality, principles and values, and interests. According to Walczak (2009), competencies include: knowledge (explicit and implicit), skills, abilities, a system of values and personality traits. According to Antacopoulou and Fitzgerald (1996), a competent manager should have many traits and characteristics, which enable them to translate their skills and knowledge into effective action. The appropriate level of competency allows them to play leadership roles effectively and also enables them to achieve the specific objectives of the company.

Oleksyn (2010) and Pocztowski (2003) draw attention to the fact that the contemporary understanding of managerial competences is very broad and is close (and even tantamount to) the concept of human capital. This understanding of competency includes:

- talents, predispositions, interests, and internal motivation (Oleksyn thinks they are the most important components of competency),
- education and knowledge (inter-related), but not as important as it is generally thought (due to the varying quality of education),
- professional experience and practical skills, based on both years of work and the amount and variety of professional experiences,
- attitudes and behaviours, characteristics,
- psycho-physical form,
- formal right to act on behalf of the organization, powers of attorney given, and health.

According to Sajkiewicz (2008, p. 82), the following elements play a very important role in managerial competencies: professional knowledge, the ability to make the right decisions at the right time, interaction, experience, ethical conduct and culture. Only a combination of these elements ensures the authority that allows competent management in an increasingly diverse structure and culture of the organization.

R. Boyatzis suggests that a competency may be a motive, trait, aspect of the person’s self-image or social role, skill, or a body of knowledge which he or she uses (Boyatzis 1982).

Competencies (knowledge, skills, abilities and other characteristics) include both generic and specific forms, representing cognitive and non-cognitive domains (Table 1).
Table 1. Cognitive and non-cognitive domains of competencies

<table>
<thead>
<tr>
<th>Cognitive domains (“can do”)</th>
<th>Non-cognitive domains (“will do”)</th>
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<tr>
<td>– General cognitive ability (general mental ability, intelligence); involve the comprehension, manipulation, retention, and creation of information. It is relatively stable throughout adulthood and the strongest predictor of educational and occupational outcomes.</td>
<td>– Personality refers to a set of traits, generally stable throughout adulthood, that direct and maintain consistency in behaviour. The Five Factor Model (FFM) of personality is dominant and includes emotional stability (resistance to anxiety and stress), extraversion (dominance, social striving), openness to experience (desire to learn and experience new things), agreeableness (empathy and desire to get along with others), and conscientiousness (dependability, achievement, reliability).</td>
</tr>
<tr>
<td>– Knowledge includes theory and concepts and tacit knowledge gained as a result of the experience of performing certain task. It is an understanding of principles, facts, and processes. Knowledge can range from generic to specific (e.g., knowledge of accounting to knowledge of how to use a particular firm’s accounting software). It is usually clustered within domains such as those learned through formal education (e.g., accounting) and/or experience. A way of expressing the distinction is to distinguish between declarative knowledge (knowing what), and procedural knowledge (knowing how), and between know-how with tacit knowledge and know-that with propositional knowledge.</td>
<td>– Interests and values are stable throughout adulthood and represent an individual’s preferences for certain types of work.</td>
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<td>– Skills represent a capacity to learn more information or learn information more quickly (e.g., study skills, reading skills). They are tied to generic domains reflecting much of what is learned through formal education or experience (e.g., problem solving, social interactions).</td>
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<tr>
<td>– Experience is a multifaceted construct that reflects an opportunity to learn and transfer knowledge from generic to job and firm specific. There are multiple types of experience (e.g., job, firm) that vary in terms of amount, time, and type.</td>
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</table>

Source: (Jensen 1998; Carroll 1993; Gottfredson 1997)

The distinction between cognitive and non-cognitive domains of competencies recognizes the difference between what a person “can do” (cognitive) and what a person “will do” (non-cognitive). Of
the four major types of cognitive domains – general cognitive ability, knowledge, skills, and experience – the general cognitive ability is the strongest predictor of educational attainment and success, job performance, promotion rates, and salary. Importantly, those with the greater general cognitive ability learn faster, benefit more from experience, and acquire knowledge more quickly and deeply. Personality, values, and interests comprise such personal characteristics as conscientiousness and preferences for different educational majors and professional occupations (Ployhart and Moliterno 2011).

Key competencies of modern managers

When competencies possessed by successful managers are discussed, the term “managerial competencies” is frequently used (Abraham et al. 2001; Moore et al. 2002; Childs, Gibson 2010; Xuejun Qiao, Wang 2009; Koenigsfeld et al. 2012). The structure of managerial competencies is broadly discussed in the literature.

Managerial competencies have been studied from many perspectives in academic research, including: the impact of competency-based methodologies on HRD (Rothwell, Lindholm 1999); the role which competencies play in education and training field (Camuffo, Gerli 2004; Hansson 2001; Kersh Evans 2005; Tovey 2006); individual and contextual factors influencing competency levels (Wickramasinghe, De Zoyza 2008; Agut et al. 2003); the competency approach to study entrepreneurial and leadership characteristics (Wickramaratne et al. 2014; Jena, Sahoo 2014; Quintana et al. 2014; Jantti, Greenhalgh 2012; Man et al. 2002; Schmitt-Rodermund 2004); the specific character of managerial competencies depending on the type of company, industry or market which the company operates in (Cappellen, Janssens 2008; Suh et al. 2012; Trivellas, Drimoussis 2013; Chong 2013; Kożuch, Szczepańska-Woszczyna 2014; Vila et al. 2014), and the evaluation of behaviour, skills and commitment of managers (Moradi et al. 2011).

Competencies are classified according to different criteria, inter alia: a source of acquiring competencies (formal and actual competencies), the substantive scope (narrow and wide competencies), availability (organization’s own competencies and acquired), the time perspective (current and anticipated competencies), a scope of impact (narrow competencies necessary for a particular position and broad ones, important in the widely understood social environment), measurability (easy or difficult to measure), ownership (individual and group competencies), content (professional, social, business, and
conceptual competencies). Managerial competencies are strategically driven by organizational core competence. Employee competency and organizational core competence are similar and linked in terms of person-organization fit and person-job fit. Competence is a temporary asset that must be generated in the interactive context between individual potential and core competence of organization (Chen, Chang 2010).

Contemporary research on managerial competencies indicates that this collection contains several hundred items. The perception of managerial competencies and their interpretation is very different. In recent years, the departure from the excessive stabilization of organizational solutions can be observed, therefore, competency requirements for managers are also changing. The process of managerial competency formation is determined by changes in the business environment and labour market conditions.

Many authors sought to answer the question what skills/competencies effective managers should have. This resulted in a number of classifications. The classifications which are the result of modern research and studies are presented in Table 2.

Table 2. Modern classifications of managerial competencies

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<tr>
<td>Managerial competencies:</td>
<td>Psychological characteristics:</td>
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<tr>
<td>- operations management</td>
<td>motivation, entrepreneurship, intellectual abilities, personal, intrapersonal and interpersonal intelligence, physical and mental fitness.</td>
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<tr>
<td>- financial management</td>
<td>Professional knowledge:</td>
</tr>
<tr>
<td>- information management,</td>
<td>the level of education, field, foreign languages, the updating of knowledge, work and managerial experience, organizational, management and economic knowledge, professional qualifications.</td>
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<tr>
<td>- human resource management;</td>
<td>Professional skills: behavioural skills, preferred management style, preferred group roles;</td>
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<tr>
<td>Other components of an effective manager:</td>
<td>Specific psychological characteristics</td>
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<tr>
<td>- the moral functioning</td>
<td>(e.g. fatigue resistance, the ability to perform various tasks, to concentrate, to respond quickly, stress resistance, the ability not to be overcome by emotions);</td>
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<tr>
<td>- self-concept and a sense of identity</td>
<td>Talent hunter</td>
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<tr>
<td>- cognitive patterns,</td>
<td>(attracting, identifying and retaining the best employees in the company);</td>
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<tr>
<td>- an attitude towards development and learning,</td>
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<td>- personality determinants,</td>
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<tr>
<td>- culture and organizational climate;</td>
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<tr>
<td>Specific psychological characteristics</td>
<td>Talent hunter</td>
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<tr>
<td>(e.g. fatigue resistance, the ability to perform various tasks, to concentrate, to respond quickly, stress resistance, the ability not to be overcome by emotions);</td>
<td>(attracting, identifying and retaining the best employees in the company);</td>
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</table>
Specific motivation (e.g. strong motivation, the need to achieve prestige, the need for power and affiliation); Ability and willingness to manage others and the related communicativeness;

Qualifications and intellectual skills (e.g. fast learning, the correct interpretation, the ability to generate a general concept, simulating the future, generating questions, work with the team and advisors);

Specific skills (the knowledge of foreign languages, computer skills, the ability to persuade, to draw up own organizational documents, fluent knowledge of documentation, knowledge of rules and procedures, the ability to use statistical techniques for data analysis);

Proper use of own resources;

Earning reputation (trust for the manager);

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<tr>
<td>51 competencies of managers in local government organizations in three categories:</td>
<td>Education;</td>
</tr>
<tr>
<td>– professional competencies,</td>
<td>Knowledge of foreign languages;</td>
</tr>
<tr>
<td>– social competencies,</td>
<td>Interpersonal skills;</td>
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<tr>
<td>– business competencies;</td>
<td>Conceptual skills;</td>
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<tr>
<td>Leadership experience</td>
<td>Developing self-awareness;</td>
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<tr>
<td>Communication skills</td>
<td>Ability to build trust (the ability to create interpersonal strategies, building trust in the organization, understanding the relationship between positive emotions and success);</td>
</tr>
<tr>
<td>Flexibility, adaptability;</td>
<td>Ability to communicate effectively (active listening, feedback, intercultural communication);</td>
</tr>
<tr>
<td>Having good appearance and presentation skills</td>
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<tr>
<td>Reliability and responsibility;</td>
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<tr>
<td>Organizational skills;</td>
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<td>Independence;</td>
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<td>Self-confidence;</td>
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Dynamic personality with an active approach to problem solving; Negotiation skills; Analytical skills; Diligence; Focus on objectives; Resistance to stress; Ability to manage projects; Loyalty; Creativity; Accuracy; Systemic thinking skills; Ability to make decisions;

Ability to gain and maintain power and influence in an ethical manner;
Managing relationships with the boss, subordinates and colleagues (coaching, mentoring, networking, the ability to make a good impression);
Managing cultural diversity;
Building effective teams;
Perceiving the differences between the actual and the virtual team, managing virtual teams;
Managing career in life;

Source: (Rakowska 2007; Nogalski, Śniadecki 2001; Königová, Urbancová, Fejfar 2012)

Based on the literature studies, Kearney et al. (2013) distinguish the following managerial competencies (Table 3):

Table 3. Managerial capability criteria

<table>
<thead>
<tr>
<th>Capability criterion</th>
<th>Nature</th>
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</thead>
<tbody>
<tr>
<td><strong>Leadership</strong></td>
<td>Shaping the culture of the firm (Kruse cited in Devins et al., 2005) Paternalistic leadership (Kelliher and Reinl, 2009) Personal resilience (Phillipson et al., 2006) Delegation (Kelliher and Reinl, 2009) and the potential for distributed leadership (Cope et al., 2011) Dangers of owner/manager dominance stifling resource/employee development (Chell, 1985)</td>
</tr>
<tr>
<td><strong>Strategic thinking</strong></td>
<td>Imaginative thinking (Beaver, 2007) Owner/manager as businessman as opposed to manager-convergence of ownership and control (O’Dwyer and Ryan, 2000) Convergence of strategy and operational work in micro firm context (Barnes et al., 2012; Cyr et al., 2011) Emergence of strategy in shaped by competitor relationships (Phillipson et al., 2004)</td>
</tr>
<tr>
<td><strong>Problem solving</strong></td>
<td>Day to day interaction with customers (O’Dwyer and Ryan, 2000) Interaction with employees facilitating learning (Fillis et al., 2004) Interaction with micro firm market (Greenbank, 2000) Evolution of difficult to imitate and context effective heuristics (Cyr et al., 2011; Liberman-Yaconi et al., 2010; Greenbank, 2000) Merging of operations and strategic (Greenbank, 2000) Market sensing capability (Foley and Fahy, 2004)</td>
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</tbody>
</table>
People relationships

<table>
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<tr>
<th>People relationships</th>
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<tbody>
<tr>
<td>Creation of effective dialogue with business advisors (Williams, 2007; Devins et al., 2005)</td>
</tr>
<tr>
<td>Smoothing potential employee/management conflict (Matlay, 1999)</td>
</tr>
<tr>
<td>Communication with family members (Wheelock and Baines, 1998)</td>
</tr>
</tbody>
</table>

Source: (Kearney et al. 2013)

According to the study conducted by T. Copp (2011), the managers managing international companies associate competencies with: interpersonal competence, interpersonal intelligence, interpersonal skills (motivation), knowledge, experience, expertise, reliability, openness, and communication skills. In their opinion, the most important competencies in company management include: leadership competencies (75%), objectives and activities management (67.85%), human resource management (67.85%), expertise (46.42%), objectivity (25%), and self-control (17.85%).

Many authors distinguish the management and leadership theory, concluding that there is a difference between leadership and management and that it is impossible to be a good manager and a good leader at the same time. While some obvious similarities (i.e. they both involve influencing constituents or employees; authority and power are generally given with both positions) can be found between leadership and management, there are also some striking differences (i.e. management is often more task-oriented; leadership is often considered more inspirational and visionary) (Ricketts 2009). But today’s groups, organizations, and teams need both effective leaders and effective managers to run a successful operation. The role every manager must play in the workplace is leadership. Several studies explored the linkage between managerial competencies and leadership behaviours as well as their influences on leadership outcomes and subordinates’ work performance. Leadership is defined as a process in which one individual influences a group of individuals to achieve a common goal (Bryman 1992; Northouse 2001). To be an effective leader, the manager must influence his associates in a positive way to reach the goals of the organization. Good leadership will create subordinates’ satisfaction and consequently, satisfied subordinates are likely to put much effort into their work. Based on the conducted research, Yukl (2003) proposed a three-dimensional leadership model. By proposing the incorporation of the category of change, the tri-dimensional model allows the integration of the two major traditions of management and leadership theory, which have normally stood apart, each having its own literature. Rather than seeking to establish distinctions between managers and lead-
ers, the two can be explained jointly using the same processes and models (Yukl, 2002). The view that people employ a mix of leadership and management behaviours appears much closer to reality, and it is therefore necessary for those that are responsible for teams to learn to combine the necessary skills to direct day-to-day affairs effectively (a task traditionally associated with management) while at the same time anticipating and managing change (leadership) (Gil, 2003). Table 4 presents the Specific Leadership Behaviours proposed by Yukl.

Table 4. Definition of the Specific Leadership Behaviours by Yukl, Gordon, and Taber (2002).

<table>
<thead>
<tr>
<th>Task Behaviours</th>
<th>Description</th>
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<tbody>
<tr>
<td>Clarifying Roles</td>
<td>assigning tasks and explaining job responsibilities, task objectives, and performance expectations</td>
</tr>
<tr>
<td>Monitoring Operations</td>
<td>checking on the process and quality of the work, and evaluating individual and unit performance</td>
</tr>
<tr>
<td>Short-Term Planning</td>
<td>determining how to use personnel and resources to accomplish a task efficiently, and determining how to schedule and coordinate unit activities efficiently</td>
</tr>
<tr>
<td>Relations Behaviours</td>
<td></td>
</tr>
<tr>
<td>Consulting</td>
<td>acting considerate, showing sympathy and support when someone is upset or anxious, and providing encouragement and support when there is a difficult, stressful task</td>
</tr>
<tr>
<td>Recognizing</td>
<td>providing praise and recognition for effective performance, significant achievements, special contributions, and performance improvements</td>
</tr>
<tr>
<td>Developing</td>
<td>providing coaching and advice, providing opportunities for skill development, and helping people learn how to improve their skills</td>
</tr>
<tr>
<td>Empowering</td>
<td>allowing substantial responsibility and discretion in work activities, and trusting people to solve problems and make decisions without getting prior approval</td>
</tr>
<tr>
<td>Change Behaviours</td>
<td></td>
</tr>
<tr>
<td>Envisioning Change</td>
<td>presenting an appealing description of desirable outcomes that can be achieved by the unit, describing a proposing change with great enthusiasm and conviction</td>
</tr>
<tr>
<td>Taking Risks for Change</td>
<td>taking personal risks and making sacrifices to encourage and promote desirable change in the organization</td>
</tr>
<tr>
<td>Encouraging Innovative Thinking</td>
<td>challenging people to question their assumptions about the work and consider better ways to do it</td>
</tr>
</tbody>
</table>
Available research on the relationship between leader behaviour and individual creativity has investigated the transformational leadership, participative leadership, and leader-member exchange (LMX) theory. According to Hall et al. (2013), the transformational leadership approach can help managers become exceptional leaders. Several studies report that transformational leaders empower their followers (e.g., Jung and Sosik 2002), establish an innovative climate (Jung et al. 2003), transform followers’ personal values and self-concepts, move them to higher levels of needs and aspirations (Jung 2001), and raise the performance expectations of their followers (Bass 1995). Moreover, transformational leaders help followers grow and develop into leaders by responding to individual follower’s needs by empowering them and by aligning objectives and goals of the individual followers, the leader, the group and the larger organizations (Bass and Riggio, 2006). This leadership has four components: charismatic role modeling, individualized consideration, inspirational motivation, and intellectual stimulation (Gumusluoğlu and Ilsev 2009). The transformational leadership which includes creating vision and inspiration has an important effect on followers’ creativity, because the leader motivates employees, shapes organizational culture and creates organizational climate required for organizational change (Weihrich et al. 2010).

Participative leadership involves the use of various decision-making procedures that determine the extent to which people can influence the leader’s decisions and have the autonomy to design and perform their own tasks. Participative leadership can take different forms, including consultation, joint decision making and delegation (Yukl, 2002). Such leadership has been identified as an antecedent of individual innovation.

The LMX theory focuses on the social exchange relationships between leaders and employees. It proposes that the quality of the relationship between a leader and follower influences outcomes such as subordinate satisfaction, supervisor satisfaction, performance, commitment, role conflict, role clarity and turnover intentions (Yukl, 2002). Some suggest that the quality of the relationship between a leader and follower is also related to innovativeness (Graen and Scandura,
High-quality exchange relationships include providing employees with challenging tasks, support in risky situations and the provision of task-related resources and recognition, all facilitating individual innovation.

In general, leaders have a powerful source of influence on employees’ work behaviours (Yukl, 2002). The most effective leaders help individuals to coordinate and integrate their differing styles through a process of applied creativity that includes continuously discovering and defining new problems, solving those problems and implementing the new solutions (De Jong, and Den Hartog 2007).

Universal, specific and personal competencies

Discussing the issue of competencies, one should highlight the fact that individual competencies can be distinguished: universal and specific competencies and so-called core competences of the company as a factor of competitive advantage (Walczak, 2009, p. 184).

Some of the expected competencies - both of managers and employees are common. These are universal competencies. The remaining part, which is different – these are specific competencies. Oleksyn (2010, p. 32) believes that universal core competencies of managers include first of all:

- the ability to shape and effectively implement the mission, vision and strategy of the organization and the ability to achieve its objectives,
- knowledge and skills enabling them to professionally fulfill all the functions of management (professionally, so effectively, rationally and ethically, using appropriate methods, techniques and tools)
- the ability to harmonize the interests of the whole organization and its part entrusted to them, as well as the interests of the organization and its external environment,
- the effective and efficient management of human, physical and financial resources entrusted to them, as well as the ability to manage time and information,
- the ability to act as an ambassador to the organization to the external environment and competencies in the field of public relations.

Specific competencies are related to the specific requirements attributed to a given role or position. They are defined as the ability to manage in conditions of diversity in regulatory systems; they are
conditions for achieving the outcome which depends on the situational context. They include specific attributes, required to perform certain tasks well. They resemble technical skills from the Katz’s model. They include knowledge, skills and experience related to “technical” aspects of the work. Each position has a set of specific job-related competencies, which show the specific contribution of the position in the organization’s objectives. Competencies specific to the function can also be specified; they are possessed by people working in specific areas of company’s activity (e.g. marketing, sales, quality testing) (Rakowska, 2007, p. 66; Moczydlowska, 2008, p. 47).

Filipowicz (2004, p. 38) distinguishes core competencies (which are the basis for subsequent groups of competencies) and executive competencies. Core competencies include:

- cognitive competencies: problem-solving, wide horizons, mental flexibility, willingness to learn, and creativity,
- social competencies: negotiating, international experience, relationships with superiors and colleagues, written communication, communicativeness, making presentations, influencing, team cooperation, and impeccable manner,
- personal competencies: being action-oriented, taking the initiative, coping with stress, perseverance, commitment, efficiency, organization of their own work, conscientiousness, decision-making, setting priorities, striving for results, and confidence.

Executive competencies include:

- business competencies: business orientation, knowledge of the industry, identifying customer needs, and sales techniques,
- company competencies: identification with the company, customer orientation, openness to change, ethics and values, foreign languages, organizational efficiency, and professional knowledge,
- managerial competencies: team building, taking care of subordinates, delegation, motivation, management courage, leadership, organization, planning, process management, project management, strategic thinking, and change management.

Pocztowski (2003, p. 155) distinguishes threshold competencies and differentiating competencies:

- threshold competencies – they are essential to perform work properly, that is, knowledge and skills, and in the case of a manager: expertise, problem solving, communication, building relationships and using services of advisors,
differentiating competencies – competencies differentiating the effective employee from others; these include: attitudes, motives and values, and in the case of a manager: leadership, empathy, willingness to learn, tolerance for ambiguity, focus on creativity, future orientation, and awareness of value.

Personal competencies are related to the individual performance of tasks. An employee shows them in their work, but also their assets, which are not used in the course of their professional activity. The level of these competencies has an impact on the overall quality of work – it determines the speed, relevance and reliability of the actions taken, e.g.: striving to achieve results, flexibility of thinking, willingness to learn, creativity, analytical thinking, organizing own work, openness to change, decision-making, coping with ambiguity, coping with stress, problem solving, professional development, independence, conscientiousness, and time management.

With regard to managers, hard and soft competencies can be distinguished. Hard competencies refer to the knowledge and skills of the practical use of methods, techniques and tools useful in the management process, for example, mathematical, statistical, and operations research methods etc. In contrast, soft skills are mainly associated with social and personal competencies, e.g. management style, leadership, and empathy.

Conclusion

A characteristic of modern business is the consensus of opinions on the increasing requirements that managers face (Koźminski, 2008; Drucker, 2004; Nogalski, Śniadecki, 2001). The quality of the activities of professional managers is determined by many factors, especially by competencies, which play a major role. The structure of competencies of a manager acting in contemporary social and economic conditions must be flexible, with the ability to adapt to changes in the environment. Nevertheless, even in this dynamic system such as a set of competencies of the effective 21st century manager, we can distinguish some permanent elements, which are the basis of the individual competency profile of each employee. Most authors point out similar elements that build competencies: knowledge, skills, personality predispositions, attitudes and patterns of behaviour. In the relevant literature, the authors mention dozens of competencies; it should be noted, however, that it is extremely difficult to isolate a competency and treat it individually, as independent and detached from others;
competencies are interdependent. However, a group of competencies being the base for the others can be distinguished. Any idea, if it is to have a practical application, must take into account the diversity of the business world.
Introduction

Innovation has been long recognised as a crucial factor in determining the growth and competitiveness of firms. In trying to understand which factors affect firms’ propensity to innovate and their ability to source external knowledge, the theoretical and empirical literature has shown that there is a link between competencies and the innovative activities of firms. The determinants of the successful innovation implementation in the company include human capital and competencies of both managers and employees. In order for successful innovation management to occur, a manager must acquire or possess expertise in the domain at hand, as well as specific competencies. Already Schumpeter combined innovation with an entrepreneur (an entrepreneur as a creative innovator). In the first edition of Theory of Economic Development from 1912, he highlighted the creativity and heroism as the basic characteristics of an entrepreneur (Brouwer 2002). The entrepreneur had leadership skills, will and ener-
gy of action, dynamism, and constructivity understood as the ability to act contrary to established beliefs and current rules. The introduction of new combinations required that the entrepreneur have skills and the courage to take a huge risk. He was characterized by: the willingness to take action, the ability to subdue others, and management and leadership skills (Schumpeter 2002). In recent years, the importance of human capital and competencies in the innovation process has been emphasised. Competencies of managers (determining a way of managing a company), and also human capital possessed, and therefore the competencies of other employees are listed as internal factors that may directly or indirectly affect innovation activities of economic entities (Ahmad et al. 2010; Galende, de la Fuente 2003; Hsien-Tang, Hsi-Peng 2010).

According to Kearney et al. (2013), in the point of view of larger firms the management of innovation is argued to take place as managers shape and are shaped by organisational level constructs (innovation orientation and innovativeness). Therefore, management are argued to influence innovation performance indirectly through the processes of intervening in organisational life and creating a culture in which innovative behaviour is favoured. However, where senior management exhibit positive attitudes towards change, it is argued that innovation orientation can be enhanced (Zhou et al., 2005). More commonly, management may rely on developing specific innovation competencies manifested as resource allocation, the choice of technology, operations management and employee development, where the competencies are ultimately determined by the over-arching influence of the firm’s knowledge structure, though directly under the influence of management who work within the influence of the knowledge structure (Siguaw et al. 2006). A high level of organization is primarily the result of excellent management of competent managers, who effectively use the company resources by making changes (innovations), envision and create innovative products and services in organizations. In order for successful innovation management to occur, a manager must acquire or possess expertise in the domain at hand, creativity, ability to carry out transformational leadership behaviours, planning and sense-making, and social skills (Mumford et al. 2002). Managers should constantly encourage employees to cooperate creatively in solving problems, help them in demonstrating activity, motivate them to be creative, eliminate an authoritative attitude, provide psychological freedom of action, properly inform and take care of the constant improvement of their intellectual level. It can be assumed that compa-
ny innovation is conditioned, among others, by managers: their mental focus on developing innovative activities, their ability to engage the appropriate resources in this activity, to identify and use external impulses, to accept many, also controversial points of view, to do experiments with calculated risk and to seek opportunities for radical breakthroughs (Krawczuk-Sokołowska 2008).

Innovation has been studied from many perspectives in academic research, including: adoption, diffusion, organizational culture, business environment, technology, and the individual. Furthermore, there is very little research reported in the literature on exploring the competencies that managers have to have in innovation processes. Therefore, this study explores the managerial competencies critical to the success in the process of innovation creation and implementation in the company in Poland. The aim of the paper is to identify the elements (knowledge, skills and attitudes) of managerial competencies and their ranges, which are crucial for the effectiveness of the innovation implementation process in the company at different stages. Knowledge of managers’ competencies in the innovation processes can lead to new perspectives for further research. Managers will gain an understanding of their own competencies and how they might improve innovation in their own organization from an individualist perspective.

The paper has focused on the identification of the essential managerial competencies to promote and enhance innovation in companies. The study was conducted among managers of top, middle and operational management level in companies operating in Poland. It seems that competencies for each of the three group of managers have not been described in detail yet. The research has identified key competencies of managers in the context of implementing innovation in the company as well as differences resulting from the level of management in the organization. The research has helped to identify discrepancies between the current level of competencies needed to achieve organizational objectives, and the expected level ensuring maximum efficiency during their implementation.

Theoretical framework. Previous research

Competencies, identified with skills, were recognized in the research on leadership behaviours, however, for a long time they were considered secondary in relation to personality traits (Filipowicz 2004). The concept of competency-based human resources has gone from a new technique to a common practice for 40 years since McClelland
KATARZYNA SZCZEPAŃSKA-WOSZCZYNA

(1973) first proposed them as a critical differentiator of performance (Boyatzis 2008). Most subsequent publications on competency (Boyatzis 1982; Woodruffe 1991) present a universal approach to competency. Boyatzis (1982) defines competency broadly as an essential, fundamental characteristic, which results in effective and/or better fulfillment of professional duties. In his opinion, professional competency represents the potential, an ability to perform something. An individual set of competencies reflects the capabilities of a person – competencies are identified with qualities of a manager who really does a good job. These include motives, personal qualities, skills, the image of oneself or one’s social role, knowledge which a person uses, and a person can be aware of the existence and possession of these qualities or not. Woodruffe (1991) suggests that the term competency is used to refer to two factors: 1) areas of work at which the person is competent, the so-called “areas of competence” and the proven ability to perform a job competently (i.e. to the standards required in employment), and 2) the sets of behaviour the person must display in order to perform the tasks and functions of job with competence. Also, Armstrong (1998) distinguished between the concept of “competence” and “competency”. In his opinion, “competence” describes what people need to be able to do to perform a job well, “competency”, in contrast, is defined in terms referring to those dimensions of behaviour lying behind competent performance. These are often referred to as behavioural competencies, because they are intended to describe how people behave when they carry out their jobs.

When competencies possessed by successful managers are discussed, the term “managerial competencies” is frequently used (Abraham et al. 2001; Moore et al. 2002; Childs, Gibson 2010; Xuejun Qiao, Wang 2009; Koenigsfeld et al. 2012). The structure of managerial competencies is widely discussed in the literature (Antonacopoulou, Fitzgerald 1996; Clardy 2008; Oleksyn 2010; Alkahtani et al. 2011). Bird (1995) defined competencies as primary characteristics such as basic and specific knowledge, motives, traits, self-image, roles and skills. Dubois et al. (2004) suggest that the term “competencies” refers to the characteristics such as “knowledge, skills, aspects of self-image, social motives, feeling and acting” which is demonstrated by an individual to achieve the desired performance goal within an organization.

Managerial competency has been studied from many perspectives in academic research, i.a.: the competency approach to study entrepreneurial and leadership characteristics (Wickramaratne et al. 2012).
THE INFLUENCE OF MANAGERIAL COMPETENCIES ON INNOVATIONS

Decisions and choices made by senior managers influence company performance depending on how they assess the environment, what strategic decisions they take and how they support innovation (Bessant, Tidd 2011). According to the research, an innovative manager is competitive, constantly seeking, constantly introducing changes and improvements, communicative and has good interpersonal skills, is able to inspire subordinates, to listen to their opinions and recognize good ideas. Two main factors influencing innovation competency development include: subjective factors (predispositions, traits, abilities, personality type, personal and social competencies), which are considered the most important and the working environment (Nawrat 2013). An indispensable element of effective change management aiming to implement innovations is entrepreneurial skills as a kind of “package”, which consists of the following skills: highly developed understanding of the process and its various components, project planning and management, teamwork skills in uncertain conditions, leadership – having a vision and the ability to implement it, learning skills – the ability to analyze, identify positive and negative events and their causes, the ability to correct the process on their basis (Bessant, Tidd 2011). The research conducted among executives of five major corporations in the United States shows that managers – innovators should be characterized by: the ability to sense the needs, anticipate change and a positive attitude to them, determination (careful planning of activities and tenacity in action), the ability to combine the overall vision with attention to every detail, participative leadership style, stubbornness combined with persuasion skills and tact (Oleksyn 2010). According to the research conducted by Copp (2011), innovative managers associate competencies with: interpersonal competencies, interpersonal intelligence, interpersonal skills (motivating), experience, openness, communication skills and leadership skills. According to Jones et al.
In order to lead others in an innovation, managers should be trained to promote: imagination, community and the application of the innovation in the workplace. Gardner and Stough (2000), based on the research conducted among 250 high-level managers, suggest that managers who are more effective in innovation processes have higher levels of emotional intelligence. Emotional intelligence is based on the leader’s ability to manage the employee’s emotions and stress (Gliddon 2006).

In the literature, in addition to the concept of „manager”, the concepts of „leader” and „entrepreneur” appear. There are various views as to how leadership differs from management and entrepreneurship. Leadership is seen as a subset of managerial activities, others see leading and managing as overlapping roles, yet others describe them as different processes. Entrepreneurship, management and leadership are roles that are not mutually exclusive. In today’s dynamic conditions of the company functioning, most managers fulfill all three roles, including being a leader as part of their work. They are also managers and most of them were the entrepreneurs that started their firm. We thus use “leader” “manager” and “entrepreneur” interchangeably. Some managerial behaviour is more general in nature (e.g. consulting, delegating). Other behaviours are aimed more directly at stimulating employees’ idea generation and/or application efforts (e.g. providing resources). Table 1 presents managers/leaders behaviours related to innovative behaviour.

**Table 1. Leader behaviours connected to innovative behaviours**

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Consist of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour relates to Idea generation</td>
<td></td>
</tr>
<tr>
<td>Intellectual stimulation</td>
<td>Teasing subordinates directly to come up with ideas and to evaluate current practices</td>
</tr>
<tr>
<td>Stimulating knowledge diffusion</td>
<td>Stimulating open and transparent communication, introducing supportive communication structures like informal work meetings</td>
</tr>
<tr>
<td>Task assignment</td>
<td>Providing employees with challenging tasks, make allowance for employees’ commitment when assigning tasks</td>
</tr>
<tr>
<td>Behaviour relates to Idea generation and Application</td>
<td></td>
</tr>
<tr>
<td>Innovative role-modelling</td>
<td>Being an example of innovative behaviour, exploring opportunities, generating ideas, championing and putting efforts in development</td>
</tr>
</tbody>
</table>
Providing vision | Communicating an explicit vision on the role and preferred types of innovation, providing directions for future activities
Consulting | Checking with people before initiating changes that may affect them, incorporating their ideas and suggestions in decisions
Delegating | Giving subordinates sufficient autonomy to determine relatively independently how to do a job
Support for innovation | Acting friendly to innovative employees, being patient and helpful, listening, looking out for someone's interests if problems arise
Recognition | Showing appreciation for innovative performances
Monitoring | Ensuring effectiveness and efficiency, checking-up on people, stressing tried and tested routines (negative relationship)

<table>
<thead>
<tr>
<th>Behaviour relates to Application</th>
</tr>
</thead>
</table>
| Organizing feedback | Ensuring feedback on concepts and first trials, providing feedback to employees, asking customers for their opinion
| Rewards | Providing financial/material rewards for innovative performance
| Providing resources | Providing time and money to implement ideas

Source: (De Jong, and Den Hartog 2007)

Managers have a powerful source of influence on employees’ work behaviours. Innovative behaviour is no exception. Basadur (2004), for instance, notes that the most effective leaders help individuals to coordinate and integrate their differing styles through a process of applied creativity that includes continuously discovering and defining new problems, solving those problems and implementing the new solutions. Various innovation studies explore the influence of leader behaviours using models developed in relation to performance outcomes, that is, leader behaviours that positively affect outcomes such as effectiveness and efficiency rather than innovation-related outcomes (De Jong, and Den Hartog 2007). Managers play a primary role in helping to facilitate original thinking as well as guiding instantiation of those novel ideas that are worthy of exploration. Leaders are

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1 Leadership is seen as a subset of managerial activities;
depicted as having both direct and indirect influences on the innovation process (Figure 1):  

Figure 1. Model of direct and indirect leadership influences on the processes of innovation

Innovative leaders should be managers of creative minds rather than originators of creative ideas. Their knowledge and skills should enable them to influence employees’ innovative behaviours directly and indirectly. Leaders are in positions of influence, others will attend to their behaviour and use what they do as a guide for appropriate actions (e.g. leaders who take risks and act unconventionally send the message that these activities are acceptable, thereby increasing the likelihood of subordinates engaging in such behaviours), leaders should be an example of innovative behaviour. Leaders should also regulate acceptable employee behaviours via the ideas they recognize, value, and reward. A third indirect way that leaders may use to shape innovation is through workforce composition; in addition to how leaders choose individuals, which individuals leaders choose to place on a team can also affect creative outcomes. A climate for creativity has a huge impact on creative and innovative achievement. As such,
one way a leader can indirectly affect the ideas generated in their organization is to establish an environment that employees see as supporting of innovative endeavors.

It is essential for a manager to understand how explicitly and directly they can shape the creative process. A manager cannot be overly dominant in the creative process such that subordinates are afraid to challenge the leader’s ideas. Innovation requires some level of conflict and healthy debate to improve and distill ideas, and it is critical for leaders who choose to provide their own ideas to ensure that others are comfortable in shaping and refining their input. A manager should define a vision for innovation in such a way that enough detail to make the goal accessible is provided, while also allowing employees the freedom to arrive at that goal in the most novel and useful way possible. A leader must also be open to emerging opportunities evolving from the efforts of subordinates even if they divert from the initial strategy. A leader’s job is often to determine which projects receive resource support and, perhaps more critically, which do not. Resource availability plays a significant role in the success or failure of innovative projects. A leader’s job is also to allocate enough resources for reasonable levels of exploration with the understanding that high-risk endeavors are often a bit of a gamble-albeit a gamble with a high pay-off if done correctly. The final and perhaps most direct method a leader can have on innovation is choosing which projects will be pursued and which will not. Such decision making is often tied to resource allocation but also represents a more direct link to choices regarding innovative outcomes. (Hunter and Cushenbery 2011)

**Methods**

The purpose of the study was to explore the perceived managerial competencies that are critical for implementing innovation. This chapter also intends to present different elements of managerial competency: knowledge, skills, qualities, attitudes and behaviours. The issues which will be empirically addressed are the following: What knowledge, skills and qualities do managers need in the context of implementing innovation in the company? Can you see any differences between the competencies possessed and expected of managers in the process of innovation implementation (is there is a competency gap)? Does the range of management competencies depend on the level of management? The authors argues that the structure of competencies of managers in companies is not homogeneous and creates a signifi-
cantly different group, moreover the expected structure of competencies depends on the level of management in the organization. The first part of the study used a content analysis based on the review of professional publications, books and scientific articles. Older publications concerning managerial competencies were chosen to compare the collected information because the most current authors follow the findings made by previous authors. During the literature research, based on the findings of the research previously conducted in different types of businesses, components of managerial competencies in the following areas were identified: knowledge, conceptual and analytical skills, social skills, job-related and cognitive managerial skills, as well as the qualities, attitudes and behaviours, crucial for implementing innovation. These sets were tested in pilot studies. The study was conducted among the managers of top, middle and operational management level in companies operating in the Province of Silesia (Poland). We eliminated the respondents who failed to answer at least 20 per cent of the questions. The quantitative sample of analysing the managerial competencies contains 101 managers. The research was conducted by means of a direct survey. The instrument of data collection was questionnaires. A questionnaire consisting of 10 questions with a mixture of Likert-scale and closed-ended questions with one answer was developed. In addition to demographic data, information about the type and scope of the innovation implemented by the company, scope of knowledge, skills, qualities and attitudes of managers relevant to company innovation (the expected competencies), assessment of their own competency and leadership styles was collected. The components of knowledge, skills, qualities and attitudes were listed. A five-point Likert scale was employed to gather responses, 5 indicating “maximum agreement” and 1 “no agreement”. The survey was sample-based. Non-random sampling was applied and advantages and disadvantages specific to this method of sampling were considered. A small group of those surveyed does not authorize to make generalizations, but allows the identification of the specific mechanisms and formulation of questions and conclusions. Tested on a larger sample, they will make it possible to formulate more documented and certain, useful theses on a larger scale. The data were collected in February and March 2014 and first analysed using basic statistical techniques. Data analysis was accomplished using IBM SPSS Statistics 21.
Elements of managerial competencies

In the first part, we would like to describe the background characteristics of respondents and the profile of companies in this research. Respectively, 19.8%, 36.6% and 43.6% of the respondents were top managers, middle managers and operational level managers. Approximately 48.5% of the respondents were between 31 to 40 years old, 27.5% under 31 years old, 23.7% over 40 years old. An education level of the respondents indicates that 97% have university degree. 43.6% of the respondents have a degree in economic fields, 20.8% – in technology or science, 14.9% – in social and humanistic sciences, 11.9% in law and administration, 20% of the respondents have over 10-year experience on the managerial positions, 18.9% from 5 to 10 years of managerial experience, others less than 5 years of such experience. The respondents work in companies of different size, 42.6% of them in large companies (more than 250 employees), 25.7% in medium-sized companies (51-250 employees), others in small companies (less than 50 employees). In 66.6% of the companies, technological innovations have been implemented, in 58.4% of companies – product innovations, in 56.4% – organizational innovations, in 43.6% – marketing innovations. In 11.9% of the companies, the innovation was international, in 19.8% it was new in the country, in other companies the innovation was new in the region, sector or company.

Mean scores were computed on all 77 elements of managerial competencies from the survey in order to examine which individual competencies were the most important and most frequently used. In this paper, we examine the managerial competencies in six competency areas such as knowledge, conceptual and analytical skills, interpersonal skills, personal skills, managerial skills, qualities, attitudes and behaviours. The mean score for individual competencies ranged from 4.50 to 3.28 in the general population, in the group of top managers it ranged from 4.21 to 2.85, respectively 4.67-3.41 and 4.51-3.18 in the groups of middle managers and operational level managers.

The first area of assessment was knowledge. The managers ranked applicable knowledge as the most important. Knowledge of the industry is an area which had the highest mean score in the context of implementing innovation in the company, it is also an area where the managers rated their own knowledge most highly (85.1% of the respondents rate themselves highly and very highly in this respect, 12.9% on the average level, only 2.0% at a low level); In this area of knowledge, the difference between the knowledge expected and pos-
sessed (deficit) is observed; it is the most important area of knowledge from the perspective of middle and operational managers. The next area is practical knowledge (with knowledge of the issues of organization and management and its applications, as well as technical, production and legal issues). 80.2% of the respondents rate themselves highly and very highly in this respect, 11.9% on the average level, only 5.9% at a low level; in this area of knowledge, the significant difference between the knowledge expected and possessed is observed (0.58); it is the most important area of knowledge from the perspective of top managers. Next operative knowledge (competence to use news and skills in task situations) (mean score 4.17) – 80.2% rate it highly and very highly, 17.8% on the average level, 4.0% at a low level) and knowledge of the sources of innovations and of the factors determining innovation – important for the innovation implementation, but also an area with large deficit in knowledge possessed in relation to knowledge expected. Table 1 lists fields of knowledge most frequently identified by the survey respondents as critical competencies.

A skill, as a component of competency, is proficiency at using relevant messages (in the normative form as a principle, rules, or – in the case of imitation – as role models), while performing specific tasks. This is application of knowledge in real company resource management and self-management. In the second part of the survey, the respondents rated their skills in several key areas. In the area of conceptual and analytical skills, skills of operational and strategic thinking were rated as the most important (mean score of 4.50; 84.2% have it on the high and very high level, 13.9% – average level, 0.0% – low level). In this area there is the biggest difference between skills expected and possessed. For 77.2% of the respondents, analytical skills are important (high and very high level), for 86.1% – observing the market, competitors. Table 2 lists elements of conceptual and analytical skills most frequently identified by the survey respondents as critical competencies.

Table 1. Assessment of managers’ knowledge, essential in the innovation implementation processes

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Top managers</th>
<th>Middle managers</th>
<th>Operational level managers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Mdn</td>
<td>Mean</td>
<td>Mdn</td>
</tr>
<tr>
<td>of the industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ex</td>
<td>4.21</td>
<td>4.00</td>
<td>4.51</td>
<td>5.00</td>
</tr>
<tr>
<td>P</td>
<td>4.57</td>
<td>5.00</td>
<td>4.54</td>
<td>5.00</td>
</tr>
</tbody>
</table>
### Table 2. Assessment of conceptual and analytical skills of managers identified as critical in innovation processes

<table>
<thead>
<tr>
<th>Conceptual, analytical skills</th>
<th>Top managers</th>
<th>Middle managers</th>
<th>Operational level managers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>operational and strategic thinking</td>
<td>P 4.36</td>
<td>4.50</td>
<td>4.11</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Ex 4.21</td>
<td>5.00</td>
<td>4.67</td>
<td>5.00</td>
</tr>
<tr>
<td>analytical</td>
<td>P 4.21</td>
<td>4.50</td>
<td>4.30</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Ex 3.86</td>
<td>4.00</td>
<td>4.33</td>
<td>5.00</td>
</tr>
<tr>
<td>observing the market, competitors</td>
<td>P 4.57</td>
<td>5.00</td>
<td>4.05</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Ex 4.07</td>
<td>4.00</td>
<td>4.47</td>
<td>5.00</td>
</tr>
<tr>
<td>problem-solving, decision-making</td>
<td>P 4.14</td>
<td>4.00</td>
<td>4.43</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>Ex 3.93</td>
<td>4.00</td>
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</tr>
<tr>
<td>diagnostic</td>
<td>P 4.29</td>
<td>4.00</td>
<td>4.22</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Ex 3.71</td>
<td>4.00</td>
<td>4.36</td>
<td>5.00</td>
</tr>
<tr>
<td>proposing ideas and changes</td>
<td>P 4.21</td>
<td>4.00</td>
<td>4.11</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Ex 3.71</td>
<td>4.00</td>
<td>4.36</td>
<td>4.00</td>
</tr>
<tr>
<td>technical</td>
<td>P 4.07</td>
<td>4.00</td>
<td>3.92</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Ex 3.43</td>
<td>3.50</td>
<td>3.78</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Note: P – possessed, Ex – expected competencies of managers.
Source: Created by the authors.
In the area of social skills, the respondents rated motivating others most highly (respectively: 75.1% / 10.9% / 4.0%), the ability to listen to and accept orders (72.3% / 7.9% / 5.0%), building good relationships and trust (80.2% / 16.8% / 3.0%). These three skills were rated more highly by middle and operational managers rather than by top managers. The ability to gain power and influence was rated at the lowest level in this area (Table 3).

Table 3. Interpersonal skills of managers identified as critical in innovation processes

<table>
<thead>
<tr>
<th>Interpersonal skills</th>
<th>Top managers</th>
<th>Middle managers</th>
<th>Operational level managers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>motivating others</td>
<td>P</td>
<td>3.86</td>
<td>4.00</td>
<td>4.19</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.00</td>
<td>4.35</td>
</tr>
<tr>
<td>ability to listen to and accept orders</td>
<td>P</td>
<td>4.25</td>
<td>4.00</td>
<td>4.46</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.31</td>
<td>4.00</td>
<td>4.39</td>
</tr>
<tr>
<td>building relationships and trust</td>
<td>P</td>
<td>4.36</td>
<td>4.50</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.00</td>
<td>4.08</td>
</tr>
<tr>
<td>delegating tasks effectively</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>3.95</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.71</td>
<td>4.00</td>
<td>4.22</td>
</tr>
<tr>
<td>making contacts, empathy</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.19</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.86</td>
<td>4.00</td>
<td>4.08</td>
</tr>
<tr>
<td>training others</td>
<td>P</td>
<td>3.79</td>
<td>4.00</td>
<td>4.11</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.86</td>
<td>4.00</td>
<td>4.16</td>
</tr>
<tr>
<td>cooperation in the group</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.19</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.79</td>
<td>4.00</td>
<td>4.14</td>
</tr>
<tr>
<td>supporting communication</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>4.14</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.64</td>
<td>4.00</td>
<td>4.03</td>
</tr>
<tr>
<td>managing conflicts</td>
<td>P</td>
<td>4.07</td>
<td>4.00</td>
<td>3.84</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.50</td>
<td>3.50</td>
<td>4.14</td>
</tr>
<tr>
<td>group decision making</td>
<td>P</td>
<td>3.93</td>
<td>4.00</td>
<td>4.14</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.64</td>
<td>4.00</td>
<td>3.62</td>
</tr>
<tr>
<td>gaining power and influence</td>
<td>P</td>
<td>4.07</td>
<td>4.00</td>
<td>3.86</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.36</td>
<td>3.00</td>
<td>3.78</td>
</tr>
</tbody>
</table>

Note: P – possessed, Ex – expected competencies of managers.
Source: Created by the authors.
Personal skills are the area where the level of the managers’ skills possessed is poorer than the level expected for the efficient innovation implementation. For the respondents, the following skills are the most important in the context of implementing innovation in company: striving to achieve results (88.1% of the respondents rated it highly or very highly), coping with change (very highly or highly rated by 80.2% of the respondents), commitment (83.2%), creative problem solving (79.2%). This group of skills was rated relatively highly and evenly – mean score is from 4.17 to 4.38. Those who rated their personal skills most highly are middle managers (Table 4).

Table 4. Managers’ personal skills in innovation processes

<table>
<thead>
<tr>
<th>Personal skills</th>
<th>Top managers</th>
<th>Middle managers</th>
<th>Operational level managers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>striving to achieve results</td>
<td>P</td>
<td>4.29</td>
<td>4.00</td>
<td>4.43</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.14</td>
<td>4.50</td>
<td>4.57</td>
</tr>
<tr>
<td>coping with change</td>
<td>P</td>
<td>4.07</td>
<td>4.00</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.14</td>
<td>4.00</td>
<td>4.49</td>
</tr>
<tr>
<td>commitment</td>
<td>P</td>
<td>4.43</td>
<td>4.00</td>
<td>4.51</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.50</td>
<td>4.49</td>
</tr>
<tr>
<td>creative problem solving</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.24</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.21</td>
<td>4.50</td>
<td>4.43</td>
</tr>
<tr>
<td>organization of own work</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.43</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.86</td>
<td>4.00</td>
<td>4.57</td>
</tr>
<tr>
<td>dealing with stress</td>
<td>P</td>
<td>3.86</td>
<td>4.00</td>
<td>4.22</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.00</td>
<td>4.38</td>
</tr>
<tr>
<td>adapting flexibly to complex and vague situations</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.30</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.71</td>
<td>4.00</td>
<td>4.43</td>
</tr>
</tbody>
</table>

Note: P – possessed, Ex – expected competencies of managers.
Source: created by the authors

The managerial (leadership) skills that the respondents rated most highly include: strategic thinking (87.1% of the respondents rated them as important or very important in the context of implementing innovation in company), the ability to set goals (84.2%). The ratings of skills such as motivating employees and developing their commitment, which
are important from the point of view of the innovation implementation, were 4.31 and 4.30 (respectively 85.1% i 87.1%). Strategic thinking, vision, goal setting, managerial courage are the domain of top managers, and motivating and caring of subordinates – of middle managers. As regards almost all managerial (leadership) skills, there is a competency gap. Table 5 lists fields of managerial skills most frequently identified by the survey respondents as critical competencies.

Table 5. Management (leadership) skills in the context of implementing innovation in company

<table>
<thead>
<tr>
<th>Managerial (leadership) skills</th>
<th>Top managers</th>
<th>Middle managers</th>
<th>Operational level managers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>strategic thinking</td>
<td>P</td>
<td>4.50</td>
<td>5.00</td>
<td>4.27</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.04</td>
<td>4.00</td>
<td>4.57</td>
</tr>
<tr>
<td>setting goals</td>
<td>P</td>
<td>4.36</td>
<td>4.00</td>
<td>4.27</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.93</td>
<td>4.00</td>
<td>4.46</td>
</tr>
<tr>
<td>motivating others</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>4.27</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.07</td>
<td>4.00</td>
<td>4.57</td>
</tr>
<tr>
<td>managerial courage</td>
<td>P</td>
<td>4.29</td>
<td>4.00</td>
<td>4.22</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.93</td>
<td>4.00</td>
<td>4.49</td>
</tr>
<tr>
<td>ability to develop employees’ commit-ment</td>
<td>P</td>
<td>4.21</td>
<td>4.00</td>
<td>4.16</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.93</td>
<td>4.00</td>
<td>4.51</td>
</tr>
<tr>
<td>having the vision and implementing it</td>
<td>P</td>
<td>4.36</td>
<td>5.00</td>
<td>4.03</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.07</td>
<td>4.00</td>
<td>4.35</td>
</tr>
<tr>
<td>planning and managing projects</td>
<td>P</td>
<td>4.07</td>
<td>4.00</td>
<td>3.92</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.93</td>
<td>4.00</td>
<td>4.41</td>
</tr>
<tr>
<td>care of subordinates</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.35</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.79</td>
<td>4.00</td>
<td>4.30</td>
</tr>
</tbody>
</table>

Note: P – possessed, Ex – expected competencies of managers.
Source: Created by the authors.

In the area of qualities, attitudes and behaviours in the context of implementing innovation in the company, the respondents rated the following as important: activity, openness to change, creativity, ingenuity, perseverance in pursuing the goal. Behaviours that aim to build creative teams that are open to change are more important than
individualistic attitudes. Table 6 lists fields of qualities, attitudes and behaviours most frequently identified by the survey respondents as critical competencies.

Table 6. Assessment of qualities, attitudes and behaviours in the context of implementing innovation in the company

<table>
<thead>
<tr>
<th>Qualities, attitudes and behaviours</th>
<th>Top managers</th>
<th>Middle managers</th>
<th>Operational level managers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>activity, initiative</td>
<td>P</td>
<td>4.14</td>
<td>4.00</td>
<td>4.41</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.31</td>
<td>4.00</td>
<td>4.46</td>
</tr>
<tr>
<td>openness to change</td>
<td>P</td>
<td>4.14</td>
<td>4.50</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.57</td>
<td>5.00</td>
<td>4.38</td>
</tr>
<tr>
<td>creativity</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>4.32</td>
</tr>
<tr>
<td>ingenuity</td>
<td>Ex</td>
<td>4.21</td>
<td>4.00</td>
<td>4.32</td>
</tr>
<tr>
<td>perseverance in pursuing the goal,</td>
<td>P</td>
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<td>4.50</td>
<td>4.54</td>
</tr>
<tr>
<td>determination</td>
<td>Ex</td>
<td>4.46</td>
<td>5.00</td>
<td>4.35</td>
</tr>
<tr>
<td>responsibility</td>
<td>P</td>
<td>4.36</td>
<td>4.00</td>
<td>4.65</td>
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<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.00</td>
<td>4.32</td>
</tr>
<tr>
<td>conscientiousness</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>4.46</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.15</td>
<td>4.00</td>
<td>4.38</td>
</tr>
<tr>
<td>self-confidence, resolutness</td>
<td>P</td>
<td>4.21</td>
<td>4.00</td>
<td>4.46</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.15</td>
<td>4.00</td>
<td>4.38</td>
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<tr>
<td>self-control in stressful situations</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>4.43</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.15</td>
<td>4.00</td>
<td>4.22</td>
</tr>
<tr>
<td>willingness to improve one’s skills</td>
<td>P</td>
<td>4.36</td>
<td>4.50</td>
<td>4.59</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.21</td>
<td>4.00</td>
<td>4.24</td>
</tr>
<tr>
<td>consistency in performing tasks</td>
<td>P</td>
<td>4.29</td>
<td>4.00</td>
<td>4.49</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.31</td>
<td>4.00</td>
<td>4.30</td>
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<tr>
<td>initiating change</td>
<td>P</td>
<td>4.21</td>
<td>4.00</td>
<td>4.16</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.46</td>
<td>5.00</td>
<td>4.22</td>
</tr>
<tr>
<td>being systematic, reliability</td>
<td>P</td>
<td>3.93</td>
<td>4.00</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>3.92</td>
<td>4.00</td>
<td>4.38</td>
</tr>
<tr>
<td>honesty</td>
<td>P</td>
<td>4.29</td>
<td>4.00</td>
<td>4.78</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.00</td>
<td>4.51</td>
</tr>
<tr>
<td>openness to the „otherness” and diversity</td>
<td>P</td>
<td>4.00</td>
<td>4.00</td>
<td>4.24</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.15</td>
<td>4.00</td>
<td>4.08</td>
</tr>
<tr>
<td>independence</td>
<td>P</td>
<td>4.29</td>
<td>4.50</td>
<td>4.65</td>
</tr>
<tr>
<td></td>
<td>Ex</td>
<td>4.00</td>
<td>4.00</td>
<td>4.32</td>
</tr>
</tbody>
</table>
A manager should have the ability to motivate all stakeholders, particularly employees, to behave pro-innovatively. This motivation is based on recognition, it uses the measures of identification with the organization, and strengthens the internal motivation of employees, but is also based on rewarding for performance, mostly team performance. The essential conditions for the successful implementation of new solutions include identifying agents of change among employees and cooperating with them.

**Conclusions**

Studying managerial competencies on the basis of studies of literature and in the context of implementing innovation in the company, the following categories of competencies were distinguished: conceptual and analytical skills, interpersonal skills, personal skills, managerial (leadership) skills and qualities, attitudes and behaviours. The survey used a 5-step Likert scale, where 5 meant that the competencies are very important for the innovation implementation, 4 – important, 3 – of medium importance, 2 – of little importance and 1 – of very little importance. Therefore, the division of competencies into the following groups can be adopted (Gliddon 2006): (a) expert (mean score 4.25 and above), (b) core (mean score 4.24-3.80), (c) supplementary (mean score below 3.80). The expert competencies include: knowledge of the industry, practical knowledge, operational, strategic and analytical thinking skills, the ability to observe the market, competitors,
to motivate others, to listen to and accept orders, the ability to: strive
to achieve results, cope with change, solve problems creatively, deal
with stress, cope with stressful situations, commitment, good organi-
zation of own work, as well as: activity, initiative, openness to change,
creativity, ingenuity, perseverance in pursuing the goal, determination,
and responsibility. A group of core competencies includes: general
economic and operational knowledge, knowledge of the sources of
innovation and of the factors determining innovation, problem-solving,
decision-making and diagnostic skills, the ability to propose ideas and
changes, technical skills, the ability to build relationships and trust, to
delegate tasks effectively, to make contacts, empathy, the ability to
train others, support communication, manage conflicts, cooperate in
the group, the ability to adapt flexibly to complex and vague situations,
care of subordinates, as well as: conscientiousness, self-confidence,
resoluteness, self-control in stressful situations, willingness to improve
one’s skills, consistency in performing tasks, initiating change, being
systematic, reliability, honesty, openness to the “otherness" and di-
versity, independence, assertiveness, loyalty, inclination to take risks.

Every innovation is a change in the system of the organization. It
must be accepted within the social system of organization, both at the
stage of its implementation and after its completion manager must
be able to both manage the expectations of employees and lead by
example. Similarly, as Jones suggested, (Jones et al. 2000), the re-
search shows that a manager has to promote creativity and commit-
tment to work relationships and focus on innovations in specific job
tasks. A manager should seek to understand the psychological profile
of others and exhibit empathy. The managers rated social skills more
highly than the conceptual and analytical skills. Despite the declared
poorer knowledge of social relationships, the managers (in their as-
essment) have a much higher ability in this field.

Persing (1999) suggests that managers who focus creative efforts
on innovating within job tasks rather than creating new ideas lead em-
ployees to higher levels of individual innovation. The findings of the re-
search indicate similarly that the task of the manager in the innovation
process is not to generate new ideas, concepts, new products, but to
strengthen and increase creativity of team of employees. Important
skills include the ability to motivate others, to listen to and accept or-
ders and build relationships and trust. The manager’s personal mo-
tivation has to come primarily from ambition, passion, tenacity and
perseverance.
The effectiveness of the innovation implementation is inextricably linked to the effectiveness of the manager. The manager should have the expert competencies of strategic thinking, setting goals and planning and managing projects. He must know and use the available resources and delegate resources and tasks to followers to ensure their ability to complete a task. According to Bingham (2003), the development of strategy depends upon a manager’s ability to understand the external environment. According to the findings, managers should have knowledge of their competitor’s business and act to combat threats. They should be able to analyze the market trends and give recommendations to the organization.

A three-step division of managers’ tasks and responsibilities into: the highest level (top management), medium (middle management) and the lowest (first-line management, operational management level) (Penc 2007) also determines a diverse range of responsibilities in the innovation processes. Thus, managerial competencies in the context of implementing innovation in the company are also different at different levels of management. Knowledge that the managers surveyed possess varies depending on the level of management: general humanistic knowledge, economic knowledge, practical knowledge, knowledge of the industry and knowledge of the sources of innovation is greater at top levels of management, and middle managers have greater operational knowledge and knowledge of factors determining innovation. The higher the level of management, the higher self-assessment of managers in almost all areas of conceptual and analytical skills. Communication, motivation, training is a strength of middle managers, while gaining authority, conflict management, delegating tasks and impeccable manner – of top managers.

The research has helped to identify discrepancies between the current level of competencies needed to achieve organizational objectives, and the expected level ensuring maximum efficiency during their implementation. The difference between the expected and actual management competencies is defined as the competency gap. The biggest discrepancy can be seen in practical knowledge, operational and strategic thinking, and operational knowledge.
Organizational culture is an inherently complex phenomenon, which is usually described by different dimensions. There are numerous attempts to define the concept of organizational culture. Becker and Geer (cited by Redman and Wilkinson, 2009) bring into discussion a set of common understandings, while Geertz (1973) emphasizes the fact that one may speak of a certain pattern of meanings passed through from generation to generation that has taken the shape of symbols, a system of inherited conceptions expressed in symbolic shape and through the medium of which people communicate to each other, continuing and developing their own attitudes towards life. Organizational culture is defined as “the pattern of shared values and beliefs that help individuals understand the organizational functioning
and thus provide them with the norms for behaviour in the organization” (Deshpandé and Webster 1998). Schein (1990) suggests that culture can be defined as (a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems”. According to Ghinea and Brătianu (2012), the organizational culture consists of metaphors and symbols, stories and myths, ceremonies and rituals, norms, rules, the organization’s philosophy (attitudes and beliefs), declared and undeclared values, as well as the most profound convictions. Not individually, but all of them together reflect the concept of organizational culture. This is not something given to an organization, but rather what the organization actually is.

Even if intangible, the organizational culture, no matter its type, influences the balance between centralization and decentralization, risk tolerance, change adaptability, personnel involvement in decision making (Ghinea 2014). The organizational culture is considered to integrate the beliefs, values and behaviours of its members, all of which forming a coherent model, capable of solving organizational problems (Schein 1992), becoming as such a strategic resource itself engendering long-term competitive advantage (Salvato et al. 2004). The organizational culture standardizes employees’ values, beliefs and behaviours thus liable of becoming organizational behavioral stereotypes, and so diminishing or enhancing the adaptive capacity of the company.

Organizational culture can be treated as an internal subsystem that allows individuals to adapt to the environment and as a synonym for the organization, or cultural identification with the company, which is a system of knowledge, so that all members have the opportunity to have their own approach to the ways of interpretation that determine the sense of identity (Czerniachowicz 2008). Organizational culture can fulfill many functions and be used to achieve many goals. They include those associated with the problems of external adaptation and issues related to the internal functioning of the organization. (Schein 1990). Organizational culture determines all the necessary elements of the structure and management systems, i.e. it offers organization members a common language and a conceptual apparatus, defines the rules of belonging to a group, sets the rules of power and a status of each position, defines the criteria for rewarding and punishing its
members, facilitates the interpretation of unusual and sudden events. Organizational culture also performs a creative function to employees, it influences their characteristics and in particular, strengthens a sense of integration with the company, responsibility for the performed tasks. It also strengthens the emotional bond between employees and a sense of duty and responsibility, as well as work ethic; it shapes the feeling of belonging to a team, group. (Kopczewski et al. 2012).

In the modern economy, non-material resources affect the growth of company’s value. They are closely connected with the man because he creates them in a given place and time, and uses for a specific purpose. This, in turn, translates into actions taken by people in the organization and their organizational culture. The aim of the chapter is to analyze the importance of organizational culture in business management processes and to present some aspects of creating an appropriate culture in economic entities.

A place of organizational culture in the theory of organizational equilibrium

Equilibrium can be understood in two ways: as a state and at the same time, as a condition. Equilibrium defined as a state is the relatively permanent system of relationships between the organization and its environment and within the organization itself, variable within certain limits. These relationships are based on the permanent adjustment – the organization responds to the expectations of its participants and the environment and meets them, and in return, it receives the necessary supply from the environment and the necessary contribution from participants. Equilibrium state is thus created in a dynamic process of exchange, the terms of which vary depending on the relationship of forces between participants, the possibility of changing partners, negotiating advantage, cooperation, the course of information and decision-making processes, and other factors. Organizational equilibrium treated as a condition is related to determining the minimum level of mutual accommodation in intra-organizational relationships and between the organization and its environment. It makes management possible and ensures that various subsystems within the organization react and respond to the impulses from the organization (Paliwoda-Matiolańska 2009). These two perspectives of equilibrium, as a state and as a condition, intertwine in relationships between equilibrium and a management process. On the one hand, the organization’s
management is interested in equilibrium due to requirements and own aspirations imposed by the environment and participants. On the other hand, equilibrium is a condition for management to be effective, economical and beneficial.

The pursuit of managers for equilibrium in the management process is related to the allocation of material, financial and human resources, shaping attitudes and motivations of the organization and environment, defining operational procedures and organizational structure. The process of maintaining equilibrium occurs in four areas (Figure 1), where the material subsystem is primarily associated with production, technology, economics; the social subsystem is mainly organization participants with their needs, expectations, and learned patterns of behaviour. The second division allows you to distinguish the internal measurement of equilibrium (within the organization) and external (a place where the organization meets with the environment). (Koźminski, Oblój 1989)

Figure 1. Areas of partial organizational equilibria.

<table>
<thead>
<tr>
<th>Subsystems Orientation</th>
<th>MATERIAL</th>
<th>SOCIAL</th>
</tr>
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<tbody>
<tr>
<td>EXTERNAL</td>
<td>Indicators of material external equilibrium</td>
<td>Indicators of social external equilibrium</td>
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<tr>
<td>INTERNAL</td>
<td>Indicators of material internal equilibrium</td>
<td>Indicators of social internal equilibrium</td>
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</table>

Source: (Koźmiński, Oblój 1989)

Activities taking place in the material internal area are predictable because they are based mainly on developing technical relationships. The main indicators of equilibrium in this area are: regularity of actions, efficiency of used production factors, operating costs, the state of the machinery, equipment and tools etc. The effects of actions in the material external area are less predictable because some variables are uncontrolled from the point of view of the organization (e.g. prices, a technological progress). The most important indicator here is the achievement of economic surplus. It is therefore a measurement of the value of the organization product, which is always in the place where the organization meets with the environment or in the environment. An important indicator of equilibrium in this area is the market share, and other supporting indicators, for example creditworthiness, security of external supply, the impact of changes in the value of various currencies on the economic situation, production and sale.
The second subsystem of the organization is the social subsystem. Social external equilibrium is a state that is defined as the level of social acceptance for the organization and its activities. The main indicators in this area are: the rules of the organization functioning and the degree of social responsibility for taken decisions and actions. The changeability of the environment, the growing demands of consumers, the activity of influential pressure groups in the environment force more and more organizations to carefully define their role in society and the political system.

Equilibrium in the social internal area is primarily shaped by human relationships within the organization and related systems and dependencies, actions of social groups (formal and informal), traditions and organizational experience, as well as individual and group norms and values. It is based on mutual acceptance, understanding and emotional involvement between the organization (its management) and its participants (members). The proper role play of organization participants (employees) results from their conviction that the mission and goals of the organization are correct and at the same time from beliefs about personal benefits. (Jemielniak and Koźmiński 2011). Due to the growing importance of this aspect of organizational equilibrium, it is necessary to improve these indicators and analyze their relationship with the indicators in other areas of equilibrium.

Individual areas cannot be regarded as quite distinct. The processes of creating (or maintaining) equilibrium in these areas are interrelated. It can be assumed that achieving a certain minimum level of equilibrium in one area determines the approach to equilibrium in the other one, and the process of maintaining equilibrium in the organization as a whole is determined by achieving the partial equilibrium. (Koźmiński, Oblój 1989)

In any organization, you can find a trend to maintain and restore equilibrium. The management aims to achieve equilibrium in the management process by taking appropriate measures and operations in:

1) structures,
2) procedures,
3) strategy,
4) organizational culture.

The organizational structure is a material background for the process of eliminating disruptions of equilibrium within the individual subsystems, areas of objectives and tasks, e.g. a failure of the machinery, complaints, construction, or purchases. Within the organizational structure information flows and is collected, decisions are made
and instructions how to act are formulated. Operational procedures are relatively permanent action programmes within the organization. Procedures are particularly useful in the process of eliminating standard disruptions of equilibrium, i.e. that are predictable, routine, or repetitive. Restoring equilibrium is to adopt rules of conduct to specific situations, as the repetitive occurrence of certain situations leads to the standardization of rules of conduct. In this way, standard operations and procedures are established in the organization. Strategy is the main goals of the organization and undertakings aimed at their achievement. Strategy is related to the adaptation of the organization to the environment, and thus it is used primarily to maintain external equilibrium (at the junction of the organization – the environment). Organizational culture provides the synchronization of the participants based on norms, values and learned patterns of behaviour. Norms and values create strong social internal equilibrium, which eventually stabilizes the organization in the material dimension. Maintaining global equilibrium depends on the constant mutual accommodation of participants to specific situations. (Stand 2000)

The above mechanisms of restoring equilibrium are simultaneously the main instruments of the management process. It may also be noted that organizations use certain management instruments in a chronological order, depending on which stage of their life cycle they are in.

I. An entrepreneurship stage- a small, flexible organization; it is characterized by a multitude of ideas, innovation, entrepreneurial activities, informal employee relationships, a community of norms, values and aspirations of participants, little planning and coordination, high activity in acquiring and allocating resources, and the creation of a niche in the environment. The main management instrument is organizational culture. Norms, values, expectations and aspirations of participants are used, which ensures permanent and flexible mutual adaptation and elimination of disturbances in internal and external equilibrium. The partial use of the structure, especially in its informal and non-centralized varieties, procedures and strategies is observed.

II. A growth stage - the dynamic development of the organization, which achieved success in the first stage. An informal communication system is maintained and there are no rigorously defined roles (informal structure). The atmosphere of cooperation and joint responsibility for performance and collective action dominate. During this stage, the importance of the organizational structure and procedure increases. The organization formalizes its activities slowly, but does not allow their bureaucratization.
III. A formalization and control stage— it is related to the stabilization of the organization and its adaptation to the state of the environment. It is characterized by the stable and formal structure. Modes of operation are formalized and standardized. The role of organizational culture norms and values is taken over by instruments such as the structure and procedures. Aspirations are replaced with a formal process of planning and decision making, and self-control – with a system monitoring performance of individual employees, sub-systems of the organization and the entire system. In the case of the efficient functioning of the structure and procedures, the management pays attention primarily to the process of creating and implementing a long-term organizational strategy.

IV. A revival and change stage – a new pattern of equilibrium is sought and structures, procedures, and especially strategy are rebuilt. In this stage, organizational culture becomes significantly important. It can occur both as a factor inhibiting the revival of the organization and favorable to it. Organizational culture is an inhibiting factor primarily when the hidden impact is not sufficiently recognized, and the management is trying to radically “rebuild” the organization without taking into account norms, values, learned patterns of behavior, traditions, etc. If the management begins the process of rebuilding the organization by modifying the existing culture in the desired direction (e.g. towards greater entrepreneurship and activity of participants) and consistently supporting culture change they give it a significant role in shaping the new structure, modifying certain procedures and changing strategy – the organizational culture becomes a factor in the revival of the organization. (Koźmiński, Oblój 1989; Gościński 1989; Cameron Quinn 2003)

There are organizations that rely primarily on organizational culture, using it as an instrument for socializing new participants, integrating their members and activities to achieve common goals. An example of such an organization may be “ephemerides”, informal organizations established to achieve a particular goal (e.g. to help victims of the disaster). They are characterized by voluntary and temporary membership, strong motivation of participants, a network and informal structure, no distribution of tasks and self-determination of roles, focus on practical effects (e.g. shipping collected donations for the victims). A community of participants is established based on similar motives, attitudes and values. Also ‘ideological’ organizations base on this management instrument: orders of the Church, political parties, and self-help groups. The main mechanism for ensuring the coordination of action is the
standardization of norms and constant indoctrination of participants. It results in a homogeneous culture in these organizations – common to all participants, who remain loyal to the standards and the organization itself. In this way, culture becomes an instrument of normative control and self-control, replacing formal mechanisms of coordination and control, like all types of professional organizations: universities, hospitals, and consulting firms. They maintain homogeneous organizational culture through a careful selection of participants from the group of professionals who, through long-term education and training, assimilate, in a relatively permanent way, fundamental norms and patterns of behaviour related to the future profession.

If an organization operates in a similar way for some time and achieves the established goals and successes, its participants (or at least widely understood management staff) learn certain patterns of behaviour and accept standards that strengthen subsequent successes. Organizational culture is thus formed as “the idealization of common experience” (Figure 2).

Organizational culture performs first of all functions of a social stabilizer, an integration and coordination mechanism, which ensures social equilibrium of the organization. At the same time, the main cultural norms are oriented at both the integration of participants and the relationship between the organization and its environment. There is an emphasis on product quality, respecting consumer rights, and environment protection. In this way, the organizational culture also creates a basis for the conceptualization of external equilibrium, specifying the pattern of the desired relationship between the organization and its environment, and how to maintain it.
An important reason for researchers’ and practitioners’ interest in the problem of organizational culture was Japanese economic organizations. Their cases show how norms, values and the resulting rules of conduct are used to maintain equilibrium, both material and social, external and internal. The main standards of organizational culture in large business organizations in Japan were created by combining long-standing traditions and needs. As a result, a Japanese corporation is an agent of production, a precisely defined social structure and a political and cultural entity. To maintain equilibrium in the management process, the most important norms and values of organizational culture are those, which determine the main rules governing the functioning of large corporations: a rule of “lifetime” employment, “zig-zag” career paths and a process of making key decisions called “Rings”. The examples of the dominant culture in large Japanese corporations show how effectively norms and cultural values can be used to maintain organizational equilibrium and control its state and eliminate possible disturbances.

Concluding the analysis of the role of organizational culture in the process of creating equilibrium, the following conclusions can be drawn:

- organizational culture, and especially the norms and values of the organization participants, determines the criteria of organizational equilibrium, particularly in the social area. Some
norms may also become the criteria of material equilibrium, e.g. a rush to modernity (the norm of product innovation);

– in organizations where culture is coherent, it is a major regulator of social internal equilibrium. Norms and values learned by participants ensure their integration, mutual adaptation, they facilitate the flow of information, and decision making. Becoming the determinant of criteria and regulator of internal social equilibrium, culture is constantly strengthened by the fact that this equilibrium is maintained;

– organizational culture is the source of such rules and procedures that result in organizational social external and material equilibrium. The strength of the organizational culture as a management instrument lies in the fact that norms, values, rules of conduct arising from them and applied in practice have diverse systemic effects in terms of partial equilibrium and global organizational equilibrium. It is also important that in special circumstances the universal nature of organizational culture as a regulator can become dangerous for the organization. When the organization operates in a state of equilibrium, and cultural norms, values, rules of behaviour become a value in itself, innovative organizational solutions, different from past experiences may be blocked. Then culture becomes a means of shaping and controlling the behaviour of participants, which is difficult to modify.

– in different periods of their functioning, organizations use culture in different ways. Culture plays an important role in creating and maintaining equilibrium in the very early days of the organization, when the criteria of equilibrium are conceptualized by the environment, management and other participants in the organization. In the subsequent stages of their life cycle some organizations, particularly non-profit institutions, benefit significantly from culture as a management instrument, while other organizations, especially economic ones, develop “harder” methods in the form of formal structures and procedures. Finally, as the example of Japanese corporations shows, some business organizations try to use organizational culture as an important management instrument, sometimes even by creating a kind of informal statutes defining values, norms and rules of behaviour of their participants. To prevent the “fossilization” of culture and its excessive dependence of material equilibrium on social one, these companies promote the inno-
The pervasiveness of an organization’s culture requires that management recognize underlying dimensions of their corporate culture and its impact on employee-related variables such as satisfaction, commitment, cohesion, strategy implementation, performance, among others (Lund 2003).

Corporate strategy can be understood as a staggered stream of decisions encompassing objectives established by the company’s management and the measures that the management chooses to pursue these objectives (Romanowska 2009). It is a process involving making decisions on the future direction of the company and the implementation of those decisions. This process consists of two stages: strategic planning and the implementation of strategy. Organizational culture penetrates both stages and all the links of such a process of strategic management. Its particular impact is reflected in the process of establishing company’s objectives and defining implementation strategies (Figure 3). Organization’s objectives are shaped by interactions between:

a) the current state of the company,
b) current environmental conditions,
c) the forecasted future states of the environment,
d) systems of values, culture and authority within the company.
Organizational culture and strategy are mutually determined. They are a system of mutually dependent relationships (Figure 4). In the first step, a specific (partial) corporate strategy is formulated resulting from the global strategic policy of the company and then it is immediately followed by the second step – adjusting the strategy to the current level of organizational culture.

Strategy and culture will co-create a synergistic effect only if there are suitable links between them. On the one hand, strategy sets the direction of the development of organizational culture, which means that organizational culture is strategy-oriented. On the other hand, the existing culture provides a framework (systems of values and norms of
behavior) that are a starting determinant of the process of formulating the strategy, which means that strategy is culture-oriented (Figure 5). At the beginning of formulating the strategy, organizational culture exists primarily as the main determinant. First of all, the following questions have to be answered: what goals are achievable in the existing type of organizational culture? Which strategies can be implemented, and which are unreal? Are we dealing with a “strong” (permanent) or “poor” (changeable) culture? What is the desired system of values and cultural norms? Then, on this basis company mission can be formulated and further steps to build strategies can be taken (developing the concept of the strategic policy, formulating a strategy, developing the functional policy, shaping the organization, reformulating the strategy). Such a look at the process of strategy formulation assumes that organizational culture represents the sum of the experiences of organization members.

Fig. 5. The relationship between corporate strategy and organizational culture

Source: (Stańda 1994)
In the course of strategic processes, however, organizational culture changes into future-oriented culture.

A characteristic of any organization’s operation is periodic stability of the implemented strategy. Then a question arises whether organizational culture is also stable and homogeneous in the long term. Management practice shows a whole range of different situations in which culture and strategy are found in a variety of configurations. For example, in non-profit institutions and mono-functional companies (wholesalers, shops) culture is stable and homogeneous. The multiplicity and diversity of cultures is characteristic of multi-functional companies, in which structures at the second level of the hierarchy are divided based on the functional criterion. The performance of various functions (production, engineering, procurement, sales, design, and finance) requires different types of culture. In production departments stable and reactive cultures should prevail, while in construction and marketing departments – creative and exploratory cultures, due to their importance in the strategy implementation, mainly at the level of direct measures that adapt the organization to changes in the environment.

Cultures can be categorized in a spectrum of weak to strong cultures. Lee (1984) and Mehta and Krishnan (2004) suggest that successful companies apparently have strong cultures. It is very complicated to measure a typology of organizational culture. Cameron and Quinn model (1999), the Competing Values Framework (CVF) is one of the most extended and comprehensive and has been used in many empirical studies (Naranjo-Valencia et.al, 2011; Sanz-Valle et.al, 2011; Lao and Ngo, 2004). By considering two dimensions, stability versus flexibility and internal focus versus external position, Cameron and Quinn (1999) proposed a model which describes four types of culture: Hierarchy, clan, market and adhocracy. According to the model, hierarchy culture focuses on internal efficiency, cooperation and sticking to dominant characteristics. Clan culture (family culture), also focuses on internal issues but its emphasis is on flexibility rather than stability. In this kind of culture, partnership, teamwork, and corporate commitment to employees are regarded as mail characteristics. Market culture is control oriented and focuses on external organization affairs. Organizations with this culture use observation and resistance to reach higher level of productivity and competitiveness. Adhocracy culture tended to external organization matters and emphasizes flexibility and change more than resistance (Ahmadi et. al 2012).
Sikorski (1995) distinguishes four basic types of organizational culture: defensive, adaptive, domination culture and independence-oriented culture. They form the basis of appropriate models of organizational strategies. Different types of organizational culture are associated with the assigned types of strategies:

- defensive culture interacts with the strategy of production; it is characterized by a strong attachment to intraorganizational norms, values and patterns of behaviour, emphasizing the separateness of the institution; organizational law and order is preferred; a source of increasing economic efficiency is to intensify contractors’ work; the existing patterns prefer physical effort and the effects of work defined in terms of quantity;

- adaptive culture is related to the market strategy; the ability to respond quickly and effectively to changes in the environment is appreciated and therefore such employees are preferred that are capable of competing with initiative and according to sound principles; the participants’ motto is to work for good pay; the prevailing view is that work should be assessed based on performance, not efforts made;

- the culture of domination and bureaucratic strategy coexisting with it – it is a type of culture combining the benefits of a positive assessment and approval of the institution in an environment with a stable system of values, norms and patterns of behavior; the primary regulator of organization members’ behaviour is conformity, taking care of insignia of authority, and attaching importance to the form, not the content;

- independence-oriented culture is related to the technocratic model of strategy; organizations participants seek to create such conditions that enable them to pursue their own goals and professional interests; their activities are professional and favourable to innovation and rationalization; employees are deeply attached to the mission of the institution, which they consider much more important than the assessment of the environment and short-term profits; a manager role model is a type of “pioneer”, active, creative and original in solving problems; this type of culture prefers qualitative measures of effects.

The relationships between organizational culture and strategy are multi-faceted and complex, and looking at corporate strategy without its cultural context is a gross simplification, preventing the correct formulation, implementation and execution of strategy. Also, the
various stages of organization development are accompanied by different cultural values. In the initial stage, it is adaptive culture due to its dynamics and success orientation. The period of the organization strengthening increases, on the one hand, formalization tendencies (bureaucratic culture), on the other hand, it develops, for example, independence orientation, expressed, inter alia, in the desire to create conditions conducive to the pursuit of own goals and professional interests. When expensive technology of previously unknown parameters is introduced, adaptive culture requires the development of supervisory functions and expertise, which results in the need for technocratic culture. In contrast, dangers and threats to the organization can be overcome through adaptive orientation.

The strategy adopted to be implemented has its roots in an appropriate strategic culture. These are the basic assumptions and values shared by the organization management. If the strategy is an expression of what the company is trying to achieve, and the social and technical system is a tool of its implementation, it is organizational culture that helps to explain why the company pursues just this, and not a different strategy. Activities contrary to the reality of organizational culture encounter resistance, and those which comply with it will be more readily accepted by organization participants. (Bratnicki et al., 1988; Stańda 1994)

Organizational structure and organizational culture are the concepts with the highest explanatory and predictive power in understanding the causes and forms of people’s behaviours in organizations (Janićijević 2013). The relationship between organizational culture and organizational structure is an important theme that is often overlooked. The two can be difficult to clearly distinguish from one another, and even more so to clearly define within an institution. Organizational structure works within an organizational culture, but it is not completely separate.

In the relevant literature, two basic, competitive hypotheses about the relationship between organizational culture and organizational structure are formulated:

- organizational structure is a reasonable instrument for regulating organizational behaviour and does not need to be a response to the cultural conditions of the organization activity, especially in the situation of the capitalist market order;
- the organizational structure is also adapted to the cultural context of the organization.
Supporters of the first hypothesis believe, for example, that the company of a particular type requires the performance of specific activities in specific positions, regardless of whether it operates in this or another country. They also believe that if a company increases its size, the greater formalization and standardization of activities are required, as well as greater decentralization, regardless of the country it operates in. Research on the relationship between the production programme and the structure conducted in the US, UK, Germany, France and Italy revealed the similarity between structural solutions of the analyzed companies: companies implementing a homogeneous production programme in conditions of poor market competition applied functional structural solutions, while those with diversified production in a situation of fierce competition – divisional solutions.

However, there are also studies that support the latter hypotheses. These include B.Lutz's research that analyzed the seven pairs of French and German companies of similar size and technology used, which had a very similar production programme. It turned out that all the French companies had a much more complex organizational hierarchy; there were more levels of the hierarchy and more managers in the French companies compared to the German ones. Moreover, in the German companies, the basic instrument for coordinating activities was personal contacts, and in the French ones – bureaucratic instruments. According to B.Lutz, the differences between the structural solutions result mainly from the differences between employees' qualifications. In Germany, the level of expertise is higher. The staff are generally better prepared to deal with a number of everyday organizational and technical problems, and therefore there is no need for a complex organizational hierarchy, as well as for extensive support and advisory units. In the French companies, people have a higher level of general knowledge. According to Lutz, the production process must be constantly monitored and analyzed by a number of foremen, department managers etc. The author also believes that the differences in the qualifications of the Germans and the French result from the differences in the education systems built for decades. They differ significantly and in consequence, they have a significant impact on structural solutions in different companies. It appears that inter alia cultural differences (“culture” as a feature of society) explain the differences between structural solutions in Japanese and American companies. Their existence is shown, for example, in the research by W.G. Ouchi, who described a model of Japanese and American companies. The research indicates that organizational structures of Japanese compa-
nies are less specialized and formal, a scope of applying bureaucratic coordination instruments is smaller and decision-making processes are characterized by collegiality.

In the light of B. Lutz’s and W.G. Ouchi’s research, organizational structure is a response to specific norms and cultural values. In other words, it is adapted to these norms and values, which leads to a diversity of structural solutions in companies pursuing the same goals in different countries, using the same technology, the same relationships with the environment etc. It should be noted, however, that culture should be regarded as a structure-shaping factor. This structure is good, when generally speaking, people get along with it; and employees will probably not get along with the structure which is completely alien in terms of culture.

Organizational culture realizes its impact on shaping organizational structure through forming the interpretative schemes of the top management, which selects the organizational structure model (James, James, Ashe, 1990). The culture creates a frame of reference in which the organization management’s considerations and reasoning circulate in the process of decision-making concerning the organizational structure model. Culture shapes the interpretative schemes of the majority of the organization’s members, and even the management’s interpretative schemes. Culture thus imposes on the leader and his associates a specific view on the organization, its meaning, its purpose, and also a suitable mode of its structuring (Janićijević 2013). Thus the conscious and planned shaping and formal sanctioning of relations between individuals and groups in an organization will be strongly influenced by the meaning that the management assigns to the said relations, which has been imposed on them by organizational culture (Ranson, Hinings, Greenwood, 1980). Organizational culture thus creates the frame of reference in which organizational structure is designed.

It is possible to formulate a number of questions regarding development trends of organizational structures and cultures associated with them. Researchers of organizational culture, seeking solutions to emerging development problems of organizations, formulate a number of assumptions about internal changes in organizations, in terms of the structural, cultural and organizational plane. The following are assumptions that reflect a distinctive way of thinking about the combined treatment of organizational structure and organizational culture:

– main values to the organization always change, while formal organizational structures do not keep up with changes in the
environment; it is therefore essential for the management to create such mechanisms that would develop and strengthen these values and standards of behaviour that affect the achievement of company’s objectives;
- cultural values and norms reduce demand for the formal structuring (the tendency of organization members to correct organizational behaviour by approving shared values and norms of behaviour);
- the phenomenon of establishing small autonomous organization wholes within the existing large organization will increase. In small organizations, processes of adaptation to a changing environment are more effective, they are more flexible and easier to manage;
- stable and relatively simple basic structures will be complemented by diverse, temporary structures with varying degrees of formalization. Three general trends can be distinguished:
  - the management implements mixed structural forms, e.g. within functional structures, R & D functions are developed based on matrix structures,
  - simplifying organizational structures by reducing staff, management and linear positions,
  - introducing structural forms into permanent structures of variables, such as project, task and team groups.
- communication is of primary importance while shaping organizational structure and developing organizational culture, in addition to informal human relationships that determine the effectiveness of communication and which influence how cultural communication is shaped. (Ciurla and Hopej 1994; Stańda 1995)

**Changing culture in organizations**

The compliance of business organization with organizational culture of its employees is a prerequisite for human teams to function efficiently. This compliance means a situation in which organizational stimuli evoke positive reactions of employees, making them aware of motives for action in accordance with the formal objectives of the company. This is because for employees, applied organizational solutions acknowledge shared values and beliefs. No compliance between the organization and its organizational culture is a reason for many negative phenomena. On the one hand, it is a sense of alienation and consequent dissatisfaction, passivity, fluctuation, etc., on the other
hand – serious difficulties in pursuing formal business objectives using methods that are not understood and supported.

Equilibrium between the organization and its culture is necessary but not sufficient for the efficient functioning of the company. Statistically understood compliance of the organization and culture threatens stagnation and a lack of response to changes in the environment.

A business organization needs changes caused by innovation, techniques and technology development, market conditions etc. Also, the company recruits new employees, who bring new values and patterns of behaviour. All this makes both organization and organizational culture develop constantly. A goal is, therefore, to maintain dynamic equilibrium between the organization and culture, which requires sufficient flexibility of both organizational and cultural patterns.

Needs to change organizational culture may therefore result from an unfavourable situation in the company (anti-effective culture), from changes in the environment, and environment competitiveness, from customers’ tastes, but also company activity, e.g. the pursuit of size (expansion). The process of transforming old values into new ones, identifying new beliefs, characters and learning new rituals requires participants’ motivation, and the management has to create the conditions for successful change. These include: management’s own actions, building support systems for changes by change experts from outside, clarity and intelligibility of the implemented changes, ensuring people’s sense of security by their participation in changes.

The empirical research (Steinman and Schreyogg 1992) on various cultural change processes in companies helped to determine the typical course of change:

- the current patterns of actions and interpretations lead to a crisis;
- there is a lack of confidence; symbols and rituals lose their credibility, they are criticized;
- apparent cultures appear or a new management team is trying to create new patterns of orientation;
- old and new cultures clash;
- if new orientations manage to overcome the crisis, they are accepted;
- the new culture evolves with new symbols, rituals etc.

The starting point is always a situation of conflict.

Traditional patterns and actions have led to the crisis, therefore they are no longer effective. Symbols and rituals are losing their credibility and fascination, they are criticized. “Cultures of shadows” ap-
pears, i.e. the existing patterns but hidden and not perceived so far, or a new management team is trying, somehow from outside, to create new patterns of orientation. Then there is a clash between the old and new cultures, there is a struggle for power. If the conflict is overcome, and members associate this result with the new orientation and it is accepted. The supporters of old culture show strong resistance and undermine new ideas. When, in spite of all, the possibilities of a new orientation in solving problems are already recognized, a new culture develops, strengthened by new symbols and rituals. This continues until there is crisis again and the cycle starts again. (Maslyk-Musiał 1991; Sikorski 1995; Steinman and Schreyogg 1992) The stimulus for such a change and transformation process comes mostly from the environment. It is often the transformation of the value system of society or other external pressure groups. A question arises whether corporate culture can become a subject of the planned change. “Culture engineers” assume that culture, like other management instruments, can be used deliberately and changed systematically. The planned change in culture means that:

- The starting point must be the vision. Strategic objectives of the company must be defined, and then such characteristics of organizational culture must be determined that are favourable to achieving the objectives.
- The management board must support the process of change.
- Managers need to engage in a process of change and set other employees an example, to integrate workers around themselves in order to implement cultural change. They should be the symbols and main advocates of values and norms which the organization wishes to establish.
- Support by an appropriate organizational structure is essential.
- The basic tool of cultural change is the personnel policy of the company. The elements of the personnel system should be carefully selected in order to: modify the evaluation criteria and control procedures, choose the appropriate criteria for recruiting new participants, change promotion criteria in the organization so that they promote a new system of norms and values, adjust reward, punishment and dismissal criteria, create a new style of leadership strengthening the new cultural system.
- Organization participants must be able to adapt to a new culture. This may require training, and even dismissal of some employees, as well as, and perhaps first of all, of managers. (Zarządzanie 1995)
A group of so-called “culturalists” takes an opposing position to such an instrumental treatment of culture. They treat corporate culture as “an organically grown living world, the world ahead of concepts, falling outside each targeted manufacturing process.” This position rejects the possibility of “doing” culture. Corporate culture is perceived as precious good of tradition that must be protected against “profanation interference of engineering development rationality”. The third stance can be specified by the slogan “course correction”. It accepts the idea of planned changes as regards their initiation in a substantially open process. On the basis of the criticism of actual culture, incentives to correct the course are to be created. (Steinman H., Schreyogg 1992)

Gagliardi (1986) distinguished three strategies of cultural change:
- The Vicious Circle – when the alternatives offered by a culture’s potential for action have been explored and have been found unsuitable for solving problems. The organization operates in a traditional, routine way, does not learn from their own negative experiences The lack of success is blamed on uncontrollable external causes or the behaviour of certain individuals or groups in the organization. In such a company, tension constantly increases, while self-confidence and efficiency decrease. The condition of cultural change is the existence of a leadership – exercised by either a person or an élite – which can bring the organization into unexplored territory where its competence can be reconstructed and its identity redefined.
- Cultural Revolution – The new postulated values may be antagonistic towards the traditional ones. The change is fast, radical, on a large scale and always expensive. Everything old is declared obsolete and all forms of traditional behaviour and attitudes are combated. Current employees are dismissed, and new, young people are hired in their place. The consequences of such a model of change may vary and are difficult to predict, so leaders must take into account the possibility of losing control of the system. In situations where this is not necessary, revolutionary changes should be avoided and unnecessary costs (financial, material and social) should not be incurred. In addition, there is a high probability that revolutionary change may thwart the achievements of the organization, weakening its position in the market
- Cultural Incrementalism – The values postulated by a survival strategy may not be antagonistic towards traditional ones, but
simply different. Changes are made using the “small steps” method, slowly and carefully, new strategies are more likely to be accepted and realized by an organization. By affecting the social subsystem, in a more or less direct way, the system of norms and values in the organization slowly changes.

The sequence of changes is as follows: to diagnose the current state of culture – to develop a plan for change while maintaining valuable elements of culture and exchanging values disturbing the efficient functioning of the system – to draw up a long-term plan for change, being careful not to lose anything valuable and change everything that needs to be changed. Evolutionary change must be preceded by the calculation of costs, including social costs. If change is made mainly at the expense of employees, it will be immediately perceived as an action taken by the management against them.

Regardless of what change strategy is chosen, it must be implemented consistently from scratch. Maximum commitment, including emotional, in the process of changing all employees, especially managers, must be strived for. They should set an example in this respect - if they do not, change may be perceived as empty cliches, which have to be fought with own cultural, “anti-” system.

Culture is not only artifacts – declarations, objects, slogans and mottos at prominent locations in the company. It is not just declared norms and values that define what is to be considered “good” and what is “bad” from now on. Culture is primarily norms and values actually observed and core cultural assumptions, invisible and difficult to describe and change. Assumptions change themselves, slowly following new awareness of people, new expectations and values, giving the emerging culture authenticity and sustainability. For some time, the staff will go back to old habits. It will take some time before the newly established culture becomes a new habit and a completely natural state. So when culture changes, the motivation of participants must be particularly strong. Successful implementation of change requires the consistent organization of activities, as well as intense emotional involvement. (Kostera 1994 Zarządzanie 1995)

Changing organizational culture in the company, especially strong, distinctive, widespread and deeply rooted culture, is a much more difficult process than making changes in a formal organization. Research on the evolution of organizational cultures clearly shows that change in organizational culture occurs most quickly in the crisis caused by the situation in the company environment. A threat to the existence of the company or quite the opposite, a chance of significant success
are situations in which not only thorough reorganizations are made in order to face these challenges, but it is also easier and faster to adopt new cultural patterns.

Research conducted in British companies made it possible to define the conditions favourable and unfavourable to changes in organizational culture. The unfavourable factors include:

- focus on internal rules and procedures in the company,
- unclear criteria for success of both the whole company and individual employees,
- predictable and stable market,
- a dominant position of the company in the market,
- little diversity of work, coherent employee groups and strong conformity,
- poor professional mobility of managers “brought up” in the company,
- recruitment and selection of employees based on the intuition of managers using their subjective evaluation criteria.

The factors favourable to changes in organizational culture include:

- intensifying contacts with the business environment and openness to new ideas,
- studying customer needs,
- tracking the activities and achievements of competitors,
- using external consultants,
- training employees and managers outside the company,
- uncertain, volatile and competitive market,
- pressure from external stakeholders, procedures for recruiting and selecting employees and managers based on objective grounds.

The above factors indicate that those stabilizing organizational culture are characteristic of traditional companies operating in rather certain environmental conditions, and hence interested in maintaining the stability of their structures and procedures. The factors favourable to cultural change, however, are typical of modern companies operating in the uncertain environment and forced to respond to it appropriately. (Sikorski 1995)

The effectiveness of strategic company management requires change in organizational culture, knowledge of the concepts, methods and techniques to change. The core around which the company should develop is organizational culture whose change is always present during strategic transformation. The company management must create something new from something old; go beyond the old
vision, develop and disseminate a new vision and make other employees not only notice it, but also feel related to it. Organizational culture as a coherent system of assumptions and core values that distinguish employees in the company from other groups, which orients their choices, is a permanent phenomenon, difficult to change. The more deeply-rooted and more widespread assumptions and values are, the more stable and less susceptible to change the culture is. Making cultural change is a very difficult and responsible task. It requires knowledge of the existing culture, the company, the environment, and the procedure for making changes. But it is also a rewarding task because, if change has been made correctly, the first positive effects are usually seen fairly quickly.
Introduction

Both in literature and in research a lot of attention is paid to identifying sources of innovation, as well as the determinants and barriers to innovation. The prerequisites of innovation include the resources directly affecting innovation: human capital (in particular its competencies, including the level of education and qualifications, knowledge and skills of employees, research staff, as well as leadership skills of managers and continuity of management guaranteeing the long-term character of innovation processes), accumulated knowledge (measured by expenditure on research), material and financial resources (machinery, equipment, buildings, licenses and patents), organizational resources (including the size of the company, which is associated with motivation and dynamics of innovation) (Balcerowicz and Wziątek-Kubiak...
2009; Francik and Pocztowski 1991). Undoubtedly, however, a human factor plays a very significant role in the innovation process: personality of managers managing teams of employees, willingness and motivation of managers to take risks, the attitude of employees, and what the employee – employer interactions consist of, i.e. organizational culture. According to West (2000), organizational culture crucially prevents or facilitates the implementation and maintenance of innovation in the organization. According to Maher (2014), organizational culture is a major factor which affects the speed and frequency of innovation.

The relationship of organizational culture and innovation has been subject to different research over the last years. The multitude of cultural variables under investigation has led to a fragmented concept of culture for innovation. Further, managerial practice requires an underlying structure in order to decide what culture should be implemented in order to innovate and to assess if a specific culture is an effective and efficient coordination instrument. It is generally agreed upon that an innovation-supportive culture is important for both the generation and implementation of innovations. Organisational cultural issues are becoming increasingly important and a source of a strategic competitive advantage. Organisational changes usually promote and intensify competitiveness, as they require dramatic changes in strategy, technology, working systems and management style, among others (Martins and Martins 2002). A systematic review of the literature shows that although the relationship between organisational culture and innovation has been extensively researched over the last decades, there is a need to investigate specific components of an innovation-supportive culture to understand the impact they have on innovation while taking account of a broader definition of innovation.

The purpose of this chapter is to identify the elements of organizational culture in companies implementing innovation and to attempt to present its model. The paper presents the findings of the research conducted in Polish companies.

Organizational culture

It is a difficult task to define the concept of “organizational culture”. Definitions take different shapes depending on the concept they reflect, their authors’ approaches and emphases. Research and practical experience of the 1980s revealed two different approaches to defining corporate culture. In the first one, culture is treated as an internal sub-system of the organization, allowing individuals to adapt to the envi-
In this approach, the company has a culture. This approach is descriptive and it is often sufficient to make a list of some features of company “personality”. In the second approach, the company is treated as a culture, i.e., a system of knowledge that each of its members can interpret through their mind. This approach allows access to the dynamics of the social system in all its complexity, and then it leads to the concept of corporate identity (Steinman and Schreyogg 1992; Strategor 1995). Ouchi defines organizational culture as a set of symbols, ceremonies and myths that enable participants to understand their underlying organizational assumptions and values. (Koźmiński and Oblój 1989). Koźmiński defines organizational culture as a sort of genetic code of the community, which is in the social awareness and which causes repeatability of both individual and collective behaviours, images, emotions and attitudes. According to Weis and Wiest, corporate culture is a system of values, norms and symbols typical for a company, which develop over a long time, and its result is the establishment of best practices for the entire social group and the specific hierarchy of values. Zbiegień-Maciąg defines organizational culture as a way of perceiving, thinking, feeling, reacting shared by company employees, which is often deeply hidden in human minds, and even unnoticed. It highlights what is common, what integrates, unites, stabilizes, and thus reduces uncertainty. This is a product of coexistence, interaction, cooperation of all employees. (Zbiegień-Maciąg 1994).

A definition of organizational culture which has been widely adopted by researchers dealing with this area of knowledge was formulated by E. Schein. In his opinion, culture is the entire fundamental assumptions that a given group has invented, discovered or developed while learning to solve problems of adaptation to the environment and internal integration. These assumptions have been proved by the practice to such an extent that they can be considered as relevant and true so they can be instilled in each new member of the group as a correct method of feeling and perception, the correct way of thinking about the problems of teamwork (Strategor 1995). Common elements can be found in all of these definitions. They highlight the assumptions, norms and values of the participants and the resulting ways of action or behaviour. It is a kind of mental community understood as the basis of the entire organizing activity and underlying the specific tasks that the organization has to complete.

In order to ensure company development it is necessary for managers to be enterprising and continuously interested in innovation activity of a diverse nature, from the groundbreaking and pioneer-
ing innovations to minor modernization that bring measurable effects (Flaszewska, Szymanska, 2013). Organisations that want to be innovative must transform their organizational culture so that it has pro-innovative character.

Loewe, Dominiquini (2006) believe that organizational culture and values are one of the four – in addition to leadership behaviours, management processes, people and skills – key areas for effective implementation of innovation. On the basis of these areas, sustainable internal competence is built for innovation as a continuous process, not incidental, short-term effort (Figure 1).

Figure 1. Key areas of a systemic innovation capability.

Organizational culture can effectively promote or inhibit cooperation, exchange of knowledge, experience and ideas. Open culture, promoting the participation of all team members in the creative process, is favourable to the activity and initiative of employees, while culture based on strong control is definitely not conducive to creativity and innovation. Cultures aimed at developing innovation and creating suitable conditions for doing so are characterized by dynamism, flexibility, fast adaptation to changing conditions, and non-stereotypical solutions. A key to the development of innovation in an organization is support, and encouragement for every employee to seek and discover unconventional, non-standard ways of achieving objectives and per-
forming tasks. Thanks to the participation, an employee has greater responsibility, but also bigger motivation (he/she is not only the „robot”, an individual carrying out a superior’s order). However, it is necessary to create an environment giving a sense of security, lack of fear, both of criticism and „theft” of the idea by co-workers, and a transparent incentive system taking into account the initiative of employees and rewarding for their active participation in the innovation process, while allowing and accepting impractical solutions, mistakes and risk associated with them. The efficient flow of information is also important—understanding the reasons for and benefits of the changes by all sides involved is necessary for their effective implementation. Personality of team managers, who initiate new projects, or give the „green light” to the initiatives submitted by employees, is also significant (Brouwer 2002; Schumpeter 2002; Szczepańska-Woszczyna 2014). Excessive formalization and bureaucratization of processes, as well as extensive control structures are not conducive to innovation. They both delay the decision-making processes, and inhibit the creativity of employees (Fabrowska 2010; Loewe, Dominiquini 2006; Januszewska).

Organizational culture plays an important role in organisations, regulating the behaviour of participants, and in extreme cases – of the organisation as a whole. If the organisation works in a similar and stabilized manner for some time, achieving goals and successes, its participants (or at least widely understood management staff) learn certain patterns of behaviour, accept standards that consistently reinforce further successes. So organizational culture is formed as “idealization of common experience.” It primarily fulfills a function of the social stabilizing factor, integration and coordination mechanism, which ensures social balance (mainly internal), and, at least partially, external - the material balance of the organisation. At the same time the main norms of culture focus on integration of both participants and the relationship between the organisation and its environment. This is reflected in the emphasis on the product quality, respect for the rights of the consumer, and protection of the environment. In this way, organizational culture also creates a basis for the conceptualization of the external balance of the organisation, determining the model of the desired relationship between the organisation and its environment and how to maintain it.
The impact of culture on company innovation

Many authors believe that organisational culture is important in regards to innovation (Dobni 2008; Gordon 1991; Amabile et al., 1996; Angle, 2000; Jassawalla and Sashittal, 2002; Kanter, 1984, 1988; McLean, 2005; O'Reilly, Chatman and Caldwell, 1991). Generating innovation requires an organisational culture that continually encourages organisation members to seek novel solutions and that fosters a climate conducive to creativity (Krot and Lewicka 2012). It can be stated that an organisation’s culture is instrumental in guiding behaviour and can therefore serve to either support or inhibit innovation (Ahmed, 1998).

An element of the company’s organizational culture is an innovation-oriented culture, which consists of: innovation-oriented motivation, innovative competence, behaviour in the innovative situation, as well as the style and quality of management determining the climate for innovation. The innovation-oriented culture may be defined as the need for the maximum number of innovative ideas to appear within a certain period. An innovative culture is a way of thinking and behaving that creates, develops and establishes values and attitudes within a firm, which may in turn raise, accept and support ideas and changes involving an improvement in the functioning and efficiency of the firm, even though such changes may mean a conflict with conventional and traditional behaviour. In order to build an innovative culture certain requirements must be met, involving six kinds of attitudes: the ability of managers to take risks, encouraging creativity, participation of all employees in building an innovation-oriented culture, responsibility of both managers and employees for their actions, allowing employees to develop their interests and use their unique talents, developing the company’s mission, which the employees will identify with; providing employees with a sense that their work is meaningful and has a positive impact on the achievement of objectives. (Claver, 1998, p. 60)

Dobni (2008) suggests that an innovation culture could be represented through a structure, which could include seven factors detected as innovation propensity, organizational constituency, organizational learning, creativity and empowerment, market orientation, value orientation, and implementation context.

Maher has identified seven key dimensions of culture that distinguish highly innovative organisations (Figure 2). These form a framework which leaders can use to assess and strengthen the culture for innovation within and across organisations:
employees should have a sense that they can try out new ideas without fear that an ill-advised idea will entail negative consequences; leaders of innovative organisations should be more interested in learning “by mistakes” rather than punishing employees for ill-advised ideas – it is better when mistakes are made when an idea is implemented, rather than when there are no mistakes because there are no ideas.

– a positive approach to innovation is greater if employees know that they have the support of superiors and independence in action while they develop innovative ideas, as well as that they can make use of financial resources to support the innovation processes;

– knowledge is the primary resource for innovation; you can create better conditions for innovation, where information from both inside and outside the organisation is widely and systematically collected, easily and quickly accessible and clearly communicated;

– as the relevant literature shows, objectives may actually promote innovation; leaders of the organisation should give a clear signal that innovation is highly desirable, by setting ambitious goals in different areas and establishing motivated teams to find ways to implement the vision;

– the support for innovation is the symbols and rituals, whose main objective is to identify innovative behaviour and an incentive for this type of behaviour is such symbols and rituals that refer to internal and individualized motivation of individual employees;

– in organisations with high innovation-based effectiveness, innovation is a product of the intended use of practical tools; leaders must consider how to build potential and capability in employees that are aware of methods of creative thinking, management and implementation of ideas;

– a dimension of the relationship, which refers to the models of interaction within the organisation; innovative ideas are rarely the product of a lone genius, therefore building a collaborative environment, accepting different ways of thinking, different viewpoints and diversity provide a good basis for the growth of innovation.
Organizational culture that supports innovation is also characterized by the level of education and general management, economic and social knowledge, efficient systems of communication in the organisation, ambition and the atmosphere of competition, incentive schemes, free exchange of innovative ideas proposals (ideas), a lack of arrogance and egoistic attitudes, announcing authors of success and those who assisted in this process (Perenc, Holub-Ivan, 2011). The characteristics of pro-innovation organizational culture include: creating a climate that would be favourable to organizational changes, developing knowledge and skills and sharing knowledge, tolerance for risk, uncertainty and novelty, implementing democratic principles of decision-making and conflict solving, supporting group activities, building an atmosphere of recognition and respect for innovators, supporting creative thinking and problem solving (Gadomska-Lila, 2010). Excellence in leading innovation has everything to do with how that leader creates a culture where innovation and creativity thrives in every corner. The things that leaders must do to foster innovation are: focus on outcomes, develop reciprocal trust, challenge the status quo, be inspiring (Edinger 2012).
According to Dobni (2008), in order to enhance the innovative capability of an organisation, it is essential to promote the spirit of innovation among employees, and subsequently to provide consistent support to their ideas and initiatives. This “spirit” will be present in such organisations that ensure appropriate conditions, systems, management processes, leadership and mechanisms encouraging desired behaviour, employee constituency and customer focus (Martins and Terblanche, 2003). Martins and Terblanche (2003) suggest that organisational culture influences creativity and innovation in two ways:

- through socialisation processes in organisations, individuals learn what behaviour is acceptable and how activities should function; with shared norms, individuals will make assumptions about whether creative and innovative behaviour forms part of the way in which the organisation operates;
- the basic values, assumptions and beliefs become enacted in established forms of behaviours and activity and are reflected as structures, policy, practices, management practices and procedures; these elements impact creativity in the workplace directly, for example, by providing resource support to pursue the development of new ideas. In this way individuals in organisations come to perceive what is considered valuable and how they should act in the workplace.

Organisational culture can stimulate or hinder creativity and innovation. It is important to identify the components of organisational culture that have the most significant influence on creativity and innovation. During the empirical research in service-orientated organisations, Martins (2002) developed a model that explains an influence of organizational culture on creativity and innovation (Figure 3).

### Dimensions measured to describe organisation culture

<table>
<thead>
<tr>
<th>Strategic vision and mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer focus (External environment)</td>
</tr>
<tr>
<td>Means to achieve objectives</td>
</tr>
<tr>
<td>Management processes</td>
</tr>
<tr>
<td>Employee needs and objectives</td>
</tr>
<tr>
<td>Interpersonal relationships</td>
</tr>
<tr>
<td>Leaderships</td>
</tr>
</tbody>
</table>

### Determinants of organisational culture that influence creativity and innovation
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Purposefulness</th>
<th>Trust relationship</th>
<th>Behaviour that encourages innovation</th>
<th>Working environment</th>
<th>Customer orientation</th>
<th>Management support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer focused marketing orientation</td>
<td>Understanding of vision, mission, goals and objectives</td>
<td>Trust</td>
<td>Idea generating</td>
<td>Integration of goals and objectives</td>
<td>Flexibility in customer service</td>
<td>Open communication</td>
</tr>
<tr>
<td>Integration of core values</td>
<td>Involvement</td>
<td>Support for change</td>
<td>Risk taking</td>
<td>Conflict handling</td>
<td>Improvement of service</td>
<td>Availability of equipment and resources</td>
</tr>
<tr>
<td>Reaction on change</td>
<td>Availability of standards</td>
<td>Decision-making</td>
<td>Cooperative teams</td>
<td>Understanding of customer needs</td>
<td>Understanding of customer needs</td>
<td>Tolerance of mistakes</td>
</tr>
<tr>
<td>Knowledge of management with a future perspective</td>
<td></td>
<td></td>
<td>Participation</td>
<td></td>
<td></td>
<td>Adaption of rules and regulations</td>
</tr>
</tbody>
</table>

Source: (Martins and Martins 2002)

A vision and mission of an organization describe a strategy that results in creativity and innovation in an organisation as a customer-focused marketing orientation. Core values should be integrated with activities and results and information for employees about them should be included in the vision and mission of an organization. Support to
the strategy is offered by response to change and management’s knowledge in leading the organisation into the future. The extent to which creativity and innovation occur is also affected by employees’ involvement in identifying outputs and participating in reaching goals and objectives. Stretch goals make employees abandon existing conventional wisdom and become creative and innovative in designing new approaches. An organisational culture based on trust, manifested in openness and sincerity, is an organisational culture that supports creativity and innovation. Many researchers argue that trust is vital for a company to succeed in an increasingly complex and rapidly changing environment. The trust relationship in an organisation will be strengthened when management and employees act openly toward one another. People will feel emotionally safe and this should result in an atmosphere in which creativity and innovation can develop. Part of the value “flexibility” as part of the structure is formed by employees’ willingness to adapt to change, to new ways of doing things. Key factors that support creativity and innovation include managers’ support which is expressed in face to face communication, their tolerance of mistakes made, the degree to which they support the adaptation of rules and regulations to keep up with change. For many organisations, it is important to foster creativity and innovation to develop their ability to offer high quality products and services. It depends on understanding the needs of internal and external customers, improving customer service and flexibility in customer service.

Elements of organisational culture that stimulates creativity and innovation

The aim of the study was to investigate the internal determinants of innovation activity in the companies surveyed, in particular an innovative climate and culture favourable to innovation. The quantitative sample of analysing the internal determinants of innovation activity in companies contains 120 employees – representatives of companies located in the Province of Silesia in Poland. Distribution of the sample is shown in Table 1.

Table 1. Distribution of the sample (%)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Seniority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman</td>
<td>Below 25 years</td>
<td>21.7</td>
</tr>
<tr>
<td></td>
<td>25-30 years</td>
<td>23.3</td>
</tr>
</tbody>
</table>
The research was conducted by means of a direct survey. The instrument of data collection was questionnaires. A questionnaire consisting of 10 questions with a mixture of Likert-scale and closed-ended questions with one answer was developed. A five-point Likert scale was employed to gather responses, 5 indicating “maximum agreement” and 1 “no agreement”. The survey was sample-based. Non-random sampling was applied and advantages and disadvantages specific to this method of sampling were considered. A small group of those surveyed does not authorize to make generalizations, but allows the identification of the specific mechanisms and formulation of questions and conclusions. Tested on a larger sample, they will make it possible to formulate more documented and certain, useful theses on a larger scale. The data was collected in April and May 2014. The data was first analysed using basic statistical techniques. Data analysis was accomplished using IBM SPSS Statistics 21.

Various elements of organizational climate which were considered significant included freedom of expressing their opinions by employees, a possibility to propose and support new ideas, collaboration between employees of different organizational units. The ratings of respondents involved in innovation processes indicate that an approach to innovative behaviours of employees can be varied depending on the size of the company – the individual elements constituting the innovative climate in companies were rated differently (Figure 3).

Certain similarities were observed in small and large companies, though probably conditions of these ratings differed: in small busi-
nesses they resulted from low formalization of procedures and rather friendly relationship between employees and superiors characteristic of small teams, while in large companies from the processes of identifying innovative ideas. In large and small companies, every employee has the right to express their own opinions, the final decision, however, is taken by managers, employees from different organizational units cooperate (formally or informally), employees can propose new ideas regardless of their level in the organisation hierarchy. In medium-sized enterprises surveyed, employees cannot make improvements themselves, even in trivial matters they need to contact managers, although they have the right to express their own opinions.

Figure 3. Elements of the innovative climate

Source: Own study.

1 – Even in the most trivial matters employees need to contact the organisation managers
2 – Employees have a right to question the ideas of their superiors
3 – Each employee may express own opinion, but it is a manager who takes a final decision
4 – People who have courage to express their own opinions are appreciated in the company
5 – Employees can question even decisions key to the organization in the presence of their superiors
6 – Employees from all departments cooperate with each other (formally or informally)
7 – Employees of all levels can propose new ideas
8 – New ideas proposed by employees are supported in the organization
9 – Organization management sees signs of innovativeness of their employees
10 – Employees solve the problems they face independently
A key to the development of innovation in an organization is support and encouragement for every employee to seek and discover non-conventional, non-standard ways of achieving the objectives and performing tasks. 43.3% of the respondents believe that the organization supports the new ideas of employees (the opinion most often expressed by employees in large enterprises (50.0%) and medium-sized enterprises (33.3%). Negative opinions were expressed by employees in medium-sized enterprises (57.1%).

As the literature studies show, an element of innovation-oriented culture is the appropriate organization of work and working conditions encouraging employees to be creative. In the companies surveyed they appreciate the appropriate range of responsibilities and allocation of activities of employees (61.7% of the respondents, especially small company employees), access to facilities and social benefits (very highly and highly rated by 58.3% of the respondents), the right equipment at the workstation (46.6%). Large companies take the best care of appropriate equipment at the workstations, employees’ access to facilities and social benefits, systems evaluating work and rewarding for extra work and proposing / implementing improvements. Employees of these companies are most supported by their employers to make the best use of their intellectual qualities. Access to social facilities and systems evaluating work are rated at the lowest level in the medium-sized companies.

A significant feature of innovation-oriented culture is change. Employees are willing to take risks that change entails, which may be related to, for example, changing jobs. Adjustment processes also include employment, implying the need for its flexibility. At the same time it should be noted that in times of high unemployment, stabilization of employment (a secure work contract) may be a more important motivating factor to work. Each innovation may be a threat to employees because it violates the current state of balance, which can lead to employees’ reluctance to implement innovation and even boycott and sabotage change. Among the respondents, 10% feel threatened by risks arising from the implementation of innovation in the company, fearing the change in the scope of their duties, redundancies, reorganization or new responsibilities. Almost every second respondent (43.3%) felt the danger in a moderate degree, which indicates that the implementation of innovation in the company may violate balance felt by employees, therefore it requires neutralizing activities. Employees who feel the threat are mostly employees of large companies (66.7%), the others are employees of medium-sized companies. The smaller
the company, the smaller feeling of danger arising from change. Such a situation may be due to the fact that employees in smaller companies are often more “versatile” and perform the tasks assigned to different positions, and therefore their loss is more severe for the company. In a large company flexibility is greater also in the personal dimension, which results in the alternation of organizational roles and mutual substitutability of employees at different positions.

As regards the companies the respondents were associated with, one can speak of an integrated management style (a huge emphasis on tasks and interpersonal relationships – in the opinion of 79.2% of the respondents). Managers focus on both the technical process and performance, as well as on employees, instilling enthusiasm for work in them, helping them to meet the challenges, trying to find the difficulties at work and outside, taking care of their development, which leads to increased productivity. Managers believe that people are willing and able to work well. They engage them suitably to their capabilities, ensuring them satisfaction from tasks they perform. They try to involve everyone in the process of planning tasks, the implementation of which they will be engaged in.

Assessing the role of managers and operational staff in the innovation processes, the respondents divided the tasks in the following way:

- the role of the manager is to: stimulate / trigger innovation of employees (4.30), control the innovation process (4.27), motivate others to be creative (4.19), lead in the implementation of innovative processes (4.07), organize the various stages and conduct the process of specific innovation implementation (4.07), plan and initiate the innovation process (4.04),
- the role of both managers and employees to the same extent is to: build, create an innovation-oriented culture (an innovative “climate”) (3.76),
- the role of employees is to search for sources of innovation (3.40).

**Conclusion**

Thinking about the implementation of innovation, companies generally focus on resources, processes and measurement of success, i.e. the easily measurable elements. Companies often devote much less attention to people-oriented determinants of the culture of innovation, which are more difficult to measure, such as values, behaviours and organizational climate. Although everything that refers to values
and behaviours of people and climate in the workplace is more elusive and difficult to control, these “difficult, people-related issues “ (as one of the presidents said) have the greatest power to shape the innovation-oriented culture and create sustainable competitive advantage.

Organizational culture may be an element favourable to the development of innovative activity. It is extremely important to appropriately shape the pro-innovation organizational culture from the point of view of competitiveness of each company because innovation is often the element that determines the competitive position in the market.

As regards the companies the respondents were associated with, one single universal model of organizational culture cannot be determined. However, the elements constituting a culture that supports innovation have been specified. They occur in most companies, with varying intensity, namely:

- the management style emphasising tasks and interpersonal relationships,
- a significant role of managers in stimulating innovation and triggering innovation of employees,
- motivating employees to be creative,
- a low level of sense of danger felt by employees, arising from changes implemented in the company,
- proper organization of work and working conditions aimed to stimulate employees’ creativity,
- support for new concepts and ideas,
- a possibility to express their opinion freely by employees, to propose and support new ideas, cooperation of employees from different organizational units.
Introduction

Innovation is not only an economic mechanism, or a technical process. It is primarily a social phenomenon in which the motivation and participation of employees are determinants of success in the process. Hence, many authors emphasise the social dimension of innovation. The innovation process is the implementation of innovation in the social system of the organization. The process begins when a decision about introducing change is made in the company. This process depends on the attitudes of managers and employees to change. On the one hand, innovation is a real or potential threat for employees, violating the state of social balance and causing employees’ resistance (the implementation of innovation is associated with uncertainty, risk taking, sounding out, experimenting and testing). At the same time, motivation, creative and innovative thinking of employees are essential for success in innovation processes. It is, therefore, important to create an innovative climate that supports innovation processes in the company. The findings indicate that even not very dynamic companies are able to strengthen their market position through innovation, if they are given appropriately broad importance, and entrepreneurs
and managers are willing to take risks and be more active compared to competitors. A lot also depends on their management style and the atmosphere created in the company. The democratic style and atmosphere of intra-entrepreneurship are favourable to innovation.

The chapter summarizes the conclusions of the studies conducted among employees from companies on identification of “soft” determinants of innovation processes in the organization, such as human resources, innovative climate and culture conducive to innovation. The purpose of this paper is a research investigation of internal factors that determine the innovation processes in the organization, i.e. the elements of the innovative climate and organizational culture conducive to innovation.

**Company innovativeness and innovation processes**

Innovation is any change, favourable by definition, in different areas of the organization activity, introducing progress compared to the existing state, developed in or outside the organization, being a response to the needs signalled or satisfying the needs previously unrevealed (Brown, Ulijn 2004; Lesaková 2008). It has the evolutionary character of improving existing things, assessed positively in the light of the criteria of the organization (Wojtowicz, Koziol 2012). The basis for developing and implementing innovation is appropriate knowledge resources in the form of inventions, industrial designs, acquired licenses, proprietary copyright, know-how, formulas, etc. It can be assumed that the essence of innovation is knowledge and learning.

Innovativeness is the company’s willingness and ability to seek, assimilate and develop new and improved products, services provided or technologies used (Janasz, Koziol 2007), as well as the ability to efficiently allocate resources to shape the optimal configuration of competitive advantages within the specified time (Bielski 2000). Innovativeness determines the level and direction of the company development, indicating progress, growth and competitive advantage. Analyzing the definitions of innovativeness in the relevant literature it can be said that innovativeness is the ability to continuously create and implement innovations that are appreciated by customers due to their high level of modernity and competitiveness in a global scale (Skrzypek 2011). Innovativeness can arise from the assumptions adopted within individual functional areas of the company. Innovativeness and innovation are not identical concepts but they are closely related because innovativeness is often measured by means of innovations cre-
ated and implemented and expenditure allocated by the company on activity in this area.

The overall innovativeness of the company is determined by its ability and willingness to absorb innovation, involvement in innovative processes and the ability to acquire resources and skills necessary to participate in these processes. The propensity for innovation is expressed in interest in changes. The ability to innovate means having sufficient resources and the internal structure that allows the creation of inventions and/or transforming them in innovations. The innovative ability of companies, the ability to transform all of its resources into real innovation and competitive advantage depends on its characteristics (size, structure, complexity, resources, firm’s market orientation and presence of strategic, managerial and marketing changes, etc.), its contacts with the environment and the characteristics of the environment and in particular on education, knowledge of company employees and the qualifications and competence of managers (Bozic, Radas 2009; Balcerowicz, Wziątek-Kubiak 2009).

Many authors highlight the social dimension of innovation (Roth 2009; Labuda 2008; Kożusznik 2010). Innovation is not only an economic mechanism, or a technical process. It is primarily a social phenomenon. In their nature, innovations are a collective process that requires the gradual involvement of the increasing number of participants. Thus, motivation and participation of employees are determinants of success in the process.

All innovations have no broader economic and/or social significance (for both their creators and users) until they are practically used by implementing them into production. The necessary condition for commercialization of each innovation is the existence of an appropriate sequence of events (actions), which is defined as the innovation process. The concept of the innovation process can be interpreted both in the narrow and broad sense. In the narrow sense, the innovation process is traditional control of the innovative process, already expanded by new elements, but proceeding in a routine manner (a decision to innovate at a higher level, information, implementation, adaptation of the system), within clearly defined borders. This concept, used in plural, refers to establishing a creative organization with innovative culture and means constantly renewed innovation processes, whose boundaries blur not only between successive innovations, but also between creativity (the sphere of ingenuity, idea) and innovation (the sphere of innovation) and whose long-term objective is to increase the innovation capacity of the organization system, to devel-
op a learning organization, capable of adapting, collecting and using knowledge. In this perspective, innovation processes mean gaining autonomy, strategic advantage over the competition, acquiring unique traits and behaviours, changing the organizational culture. Innovation processes are also analyzed in micro and macro perspectives. In the micro perspective, patterns and generalizations are sought, concerning the inventive process, the triad of research, development, and implementation, as well as a response to a question about the advantage of supply over demand-based innovation stimulation, relationship of expenditure on research with their effects. The innovation process can also be seen from the point of view of the organization or groups or individuals operating in it. Changes in behaviour of innovative processes participants lead to organizational development (redirecting the organization to one of the tracks of innovative strategies), and transferred to the growing circles of society, can trigger social change (Francik 2003).

**Innovation processes in the social system of the organization**

The innovation process is the implementation of innovation in the social system of the organization (Figure 1). It consists of two stages: the stage of innovation development and dissemination stage. The beginning of the innovation process may be developing and collecting inventions (regardless of the place of their origin). The next steps include selecting one of the concepts, taking the decision on how to implement it, that is specific actions enabling the introduction of innovations in organizational reality. The innovation process begins in a specific organizational context that determines its course.

The innovation process in the company begins when the decision about introducing change is made in the company. This process depends on the attitudes of managers and employees to change. Innovation is for employees a real or potential threat, violating the state of social balance and causing employees’ resistance (the implementation of innovation is associated with uncertainty, risk taking, sounding out, experimenting and testing). Thus, the organization of the innovation process should aim to overcome such barriers and achieve the state of balance of the organization social system in the final stage. At the same time, in order to cope with the knowledge-based competition of a new type, it is necessary to search for synergistic effects of broadly understood innovation. It is essential, therefore, to have access to a variety of resources, especially intangible. This implies the
need to care for the appropriate level of innovative behaviour of employees. These, in turn, derive from innovation-oriented instruments, rules and management procedures. Innovation is understood as the ability to innovate, it requires respect for the individual, the perception of the employee not only as a means of conveying human capital, but primarily as the subject of the innovation process (Bal-Wozniak 2013). It should be emphasised that in managing the process of innovation implementation, flexibility of response to competitive challenges is significantly affected by access to innovative competence and, therefore, it is necessary to manage innovativeness as a process of shaping this competence referring them to people as current and potential participants in the innovation process. Equipping people with this competence is the process of strengthening their ability to actively participate in solving problems in the organization.

Figure 1. Stages of the innovation process

A subject of the innovation process – a human being – participates in the business processes in a dynamic way, depending on the current phase of the life cycle of the individual and the life cycle of an organization, in which he or she performs defined functions and plays professional and social roles. In order to optimally use the potential of activity and creativity of employees, it is necessary to take into account their objectives as participants in the processes that contribute to implementing business plans. These participants belong to specific
groups of stakeholders, adopt certain attitudes and behaviour based on their perception of their own anticipation in these processes. If it is positive, psychological barriers to their activity disappear.

Innovativeness perceived in terms of a subject is seen as a specific competence. According to the theory of competence (Boytazis 1982; Lévy-Leboyer 1997), it includes knowledge, skills, values, attitudes, and they are components of the company innovation potential, including a set of resources enabling it to achieve the innovation-related objectives. A category of competence (here as a component of innovation) is gradable, which means that through appropriate interaction (management, coordination) it may influence the change in its states (Bal-Wozniak 2013).

Four areas are crucial to effectively implement innovation: leadership behaviour, management processes, people and skills, organizational culture and values (Loewe, Dominiquini 2006; Leiponen 2005). On the basis of these areas, sustainable internal competence is built for innovation as a continuous process, not incidental, short-term effort (Figure 2).

A prerequisite for the effective team activity, whose task is creative, innovative problem solving, is the openness and willingness to share knowledge and experiences with others. This approach is partly due to personality determinants of team members, so organizational culture is also important here, which can effectively promote or inhibit cooperation, exchange of knowledge, experience and ideas. Open culture, promoting the participation of all team members in the creative process, is favourable to the activity and initiative of employees, while culture based on strong control is definitely not conducive to creativity and innovation.
Cultures aimed at developing innovation and creating suitable conditions for doing so are characterized by dynamism, flexibility, fast adaptation to changing conditions, and non-stereotypical solutions. A key to the development of innovation in an organization is support, and encouragement for every employee to seek and discover unconventional, non-standard ways of achieving objectives and performing tasks. Thanks to the participation, an employee has greater responsibility, but also bigger motivation (he/she is not only the „robot“, an individual carrying out a superior’s order). However, it is necessary to create an environment giving a sense of security, lack of fear, both of criticism and „theft“ of the idea by co-workers, and a transparent incentive system taking into account the initiative of employees and rewarding for their active participation in the innovation process, while allowing and accepting impractical solutions, mistakes and risk associated with them. The efficient flow of information is also important understanding the reasons for and benefits of the changes by all sides involved is necessary for their effective implementation. Personality of team managers, who initiate new projects, or give the „green light“ to the initiatives submitted by employees, is also significant (Brouwer 2002; Schumpeter 2002; Szczepańska-Woszczyna 2014). Excessive formalization and bureaucratization of processes, as well as extensive control structures are not conducive to innovation. They both delay the decision-making processes, and inhibit the creativity of employees. (Fabrowska 2010; Loewe, Dominiquini 2006; Januszewska).
The research findings show that even not very dynamic companies are able to strengthen their market position through innovation, if they are given appropriately broad importance, and entrepreneurs and managers are willing to take risks and be more active compared to competitors. A lot also depends on their management style and the atmosphere created in the company. The democratic style and atmosphere of intra-entrepreneurship are favourable to innovation. Thanks to them, the process of creating innovation, regarded as a social process, becomes more efficient.

**Diffusion and infusion of innovation at the individual level**

The implementation of innovative projects, regardless of the size of the company that implements innovation, as well as the type of innovation takes place according to the pattern, which is referred to as a model of the innovation process (Drucker 1994). From a process perspective, the process of innovation adoption can be considered to be successful when an innovation is successfully adopted and used by most, or all, of potential adopters. This description indicates that, first and foremost, the innovation should be adopted – by most, or all, of the adopting units – within the community of potential adopters so that the adoption process is successful. This is the breadth dimension of the innovation adoption process and is covered by the classic term “diffusion” of innovations in the literature (Rogers, 1995). Secondly, the adopted innovation should be successfully used by the adopting unit; i.e., adopters should use it fully and completely in the way intended by the innovation designers. Nevertheless, if the innovation is adapted to suit local conditions, it is used successfully only when used in a manner that allows the full and complete use of the features and functionality of the adapted innovation. This is the depth dimension of the innovation adoption process and has generally been defined as “infusion” of innovation in the literature (Cooper and Zmud, 1990; Fichman, 1995; Tornatzky and Klein, 1982; Zmud and Apple, 1992).

Infusion is a multi-dimensional phenomenon defined as “the extent to which the full potential of the innovation has been embedded within an individual’s work system” (Compeau 2002). Infusion is a rich conceptualization useful for understanding how individuals will react to innovation abandonment or other changes to the environment of the innovation.

It is reasonable to conceptualize infusion as a three-dimensional construct: intensity of usage, scope of usage and satisfaction with the
innovation. Each dimension is a formative indicator of infusion. In other words, more usage of an innovation, a greater number of tasks addressed with that innovation and increased satisfaction with the innovation all mean the innovation is more infused. However, the indicators need not co-vary for all individuals.

Infusion is related to, but distinct from, other diffusion related variables, such as intention to use, perceived ease of use and the perceived characteristics of innovating (Davis, 1989; Rogers, 1995).

Researchers in the social sciences have proposed different models of the adoption process to provide a better understanding of the phenomenon of adoption of technological innovations from a process perspective. In the research on the course of innovation processes, other models evolved that described how to implement innovation processes (early models developed already in the 1950s and 60s, for example, traditional linear models defined as “pushed by science” (a push model) and “pulled by the market” (a pull model) (Jasiński, 1998; Stawasz 1999), described in detail by the literature or the chain-linked model of the innovation by S.J. Kline and N. Rosenberg (Kline, Rosenberg 1986); the contemporary models of innovation processes include a “fifth-generation innovation process” model (Rothwell, 1995), a model of a systematic approach to the innovation process, a spiral innovation process model (Oslo Manual 2005), and a model of effective innovation management (Tidda, Bessant, Pavitt 2001). The authors of contemporary models emphasize the importance of the stage of diffusion and dissemination of the innovation implemented (Norek 2014).

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2003). Peres (2010) suggested that diffusion is “the process of the market penetration of new products and services that is driven by social influences, which include all interdependencies among consumers that affect various market players with or without their explicit knowledge”. Diffusion of innovation defines the principles of market commercialization of innovative products and services and is such a stage of the innovation process that directly determines the market success of new products and services. It can be argued that without diffusion processes, innovation would not have economic significance (Klincewicz 2011), which means that many researchers consider the issue of diffusion as a key to the successful implementation of innovation processes (Norek 2014). The diffusion theory is multidisciplinary, it engages sociology, management science and microeconomics in particular. Diffusion takes place in appropriate channels,
through which innovation reaches individual members of the social system. So it is not so much a spatial process as a special type of communication, market processes, and also social change (Rogers 1995).

Rate of adoption is the relative speed with which an innovation is adopted by members of a social system. It is generally measured as the number of individuals who adopt a new idea in a specified period, such as each year. So the rate of adoption is a numerical indicator of the steepness of the adoption curve for an innovation (Rogers 1995). The perceived attributes of an innovation are one important explanation of the rate of innovation adoption. The rate of adoption is explained by five attributes: relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1983). In addition to these five perceived attributes of an innovation, such other variables as (1) the type of innovation-decision, (2) the nature of communication channels diffusing the innovation at various stages in the innovation-decision process, (3) the nature of the social system in which the innovation is diffusing, and (4) the extent of change agents’ promotion efforts in diffusing the innovation, affect an innovation’s rate of adoption (Figure 3).

![Variables Determining the Rate of Adoption of Innovations](image)

Figure 3. Variables Determining the Rate of Adoption of Innovations

<table>
<thead>
<tr>
<th>Dependent Variable That Is Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>RATE OF ADOPTION OF INNOVATIONS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables Determining the Rate of Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Perceived Attributes of Innovations</td>
</tr>
<tr>
<td>1. Relative advantage</td>
</tr>
<tr>
<td>2. Compatibility</td>
</tr>
<tr>
<td>3. Complexity</td>
</tr>
<tr>
<td>4. Trialability</td>
</tr>
<tr>
<td>5. Observability</td>
</tr>
<tr>
<td>II. Type of Innovation - Decision</td>
</tr>
<tr>
<td>1. Optional</td>
</tr>
<tr>
<td>2. Collective</td>
</tr>
<tr>
<td>3. Authority</td>
</tr>
<tr>
<td>III. Communication Channels (e.g., mass media or interpersonal)</td>
</tr>
<tr>
<td>IV. Nature of the Social System (e.g., its norms, degree of network interconnectedness, etc.)</td>
</tr>
<tr>
<td>V. Extent of Change Agents’ Promotion Efforts</td>
</tr>
</tbody>
</table>

Source: (Rogers 1995)
Key components of the diffusion theory include (Dearing 2015):
- The innovation, and especially potential adopter perceptions of its attributes of relative advantage (effectiveness and cost efficiency relative to alternatives), complexity (how simple the innovation is to understand and use), compatibility (the fit of the innovation to established ways of accomplishing the same goal), observability (the extent to which outcomes can be seen), and trialability (the extent to which the adopter must commit to full adoption);
- The adopter, especially each adopter’s degree of innovativeness (earliness relative to others in trying and adopting the innovation);
- The social system, especially in terms of the structure of the system, its local informal opinion leaders, and potential adopter perception of social pressure to adopt;
- The individual adoption process, a stage-ordered model of awareness, persuasion, decision, implementation, and sustained use; and
- The diffusion system, especially an external change agency and its paid change agents who, if well-trained, correctly seek out and intervene with the client system’s opinion leaders, paraprofessional aides, and innovation champions.

Much prior literature about diffusion suggests three sets of factors that explain people’s decisions about innovations:
- what they think about the innovation in terms of its pros and cons - this factor concerns the attributes or characteristics of an innovation,
- what they think others think about the innovation’s pros and cons – the factor concerns personal and social influence, especially in the guise of informal opinion leaders, and
- when the innovation is introduced to potential adopters and how they understand it – the factor concerns timing and the meaning people make of an innovation (Wejnert, 2002).

Social determinants of innovation processes

The aim of the study was to investigate the internal determinants of innovation activity in the companies surveyed, in particular human resources, an innovative climate and culture favourable to innovation. The quantitative sample of analysing the internal determinants of innovation activity in companies contains 174 employees – representatives
of companies located in the Province of Silesia in Poland. We eliminated the respondents who failed to answer at least 20 per cent of the questions. A total number of 152 usable questionnaires were received. Distribution of the sample is shown in Table 1.

Table 1. Distribution of the sample (%)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Seniority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman</td>
<td>Below 25 years</td>
<td>30.8</td>
</tr>
<tr>
<td></td>
<td>25-30 years</td>
<td>26.5</td>
</tr>
<tr>
<td></td>
<td>5 -10 years</td>
<td>46.2</td>
</tr>
<tr>
<td>Man</td>
<td>31-40 years</td>
<td>31.6</td>
</tr>
<tr>
<td></td>
<td>41-50 years</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td>Over 50 years</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>25.8</td>
<td>18.8</td>
</tr>
<tr>
<td>Non-managerial position (e.g. a specialist)</td>
<td>I manage a team of at least ten people</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>Micro company (up to 9 people)</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>Operational manager</td>
<td>I manage a team of four-nine people</td>
</tr>
<tr>
<td></td>
<td>Small enterprise (from 10 to 50 people)</td>
<td>19.7</td>
</tr>
<tr>
<td></td>
<td>Middle manager</td>
<td>I manage a team of two-three people</td>
</tr>
<tr>
<td></td>
<td>Medium-sized enterprise (from 51 to 250 people)</td>
<td>25.6</td>
</tr>
<tr>
<td>Senior manager</td>
<td>I do not manage teams of people</td>
<td>60.7</td>
</tr>
<tr>
<td></td>
<td>Large enterprise (over 250 people)</td>
<td>35.0</td>
</tr>
</tbody>
</table>

Source: Own study.

The research was conducted by means of a direct survey. The instrument of data collection was questionnaires. A questionnaire consisting of 10 questions with a mixture of Likert-scale and closed-ended questions with one answer was developed. A five-point Likert scale was employed to gather responses, 5 indicating “maximum agreement” and 1 “no agreement”. The survey was sample-based. Non-random sampling was applied and advantages and disadvantages specific to this method of sampling were considered. A small group of those surveyed does not authorize to make generalizations, but allows the identification of the specific mechanisms and formulation of questions and conclusions. Tested on a larger sample, they will make it possible to formulate more documented and certain, useful theses on a larger
scale. The data was collected in April and May 2014. The data was first analysed using basic statistical techniques. Data analysis was accomplished using IBM SPSS Statistics 21.

Each innovation may be a threat to employees because it violates the current state of balance, which can lead to employees’ reluctance to implement innovation and even boycott and sabotage change. Among the respondents, only 9% feel threatened by risks arising from the implementation of innovation in the company, fearing the change in the scope of their duties, redundancies, reorganization or new responsibilities. The majority (66.7%) were people employed in non-managerial positions). Almost every second respondent (44.7%, of which 60.0% are people employed in non-managerial positions) felt the danger in a moderate degree, which indicates that the implementation of innovation in the company may violate balance felt by employees, therefore it requires neutralizing activities.

A key to the development of innovation in an organization is support and encouragement for every employee to seek and discover non-conventional, non-standard ways of achieving the objectives and performing tasks. 46.3% of the respondents believe that the organization supports the new ideas of employees (the opinion most often expressed by operational employees and senior managers (50.0% of respondents in each group). Negative opinions were expressed by low-level (operational) managers (40.0%). Senior managers did not rate the issue negatively. Therefore, a discrepancy can be observed in the assessment of employees and their superiors.

In the organizations studied there is a need for change and efforts are made to introduce it, the need to innovate is seen by all the employees of an organization. Management declares a positive attitude to innovate; regardless of the level they occupy in the structure, employees can propose new ideas and solutions that are further discussed, as long as they are part of a corporate strategy. Organizational culture is characterized by openness to the creation of new knowledge and its use in the innovation processes, managers are not afraid of change and encourage their subordinates to introduce it. However, some discrepancy can be observed in the assessment of the elements related to the innovation climate made by operational employees and managers. The assessment of the elements that affect the climate of innovative is presented in Figure 3.
The comparison of companies that implement innovation and that do not shows that companies where innovative processes take place, new ideas of employees are noticed to a greater extent, managers are more open to their subordinates' opinions, they recognize and reward signs of innovation of their employees, there is a greater cooperation between employees from different organizational units (Figure 4).

Figure 4. Elements of innovation climate - companies that implement innovation and that do not implement innovation

Source: Own study.
The element most frequently reported by the respondents that limits innovation processes is rather organizational and financial constraints: bureaucracy, high cost of credit and the lack of funds for the implementation of innovation. However, it should be noted that the problem could also be the reluctance of employees to propose ideas for improvement and completely new solutions (Figure 5). Every third respondent also mentioned too low qualifications of employees to implement innovation, however, significant differences can be observed in the assessment of the operational staff (26.0%) and managers (40.0%). It is, therefore, necessary to ensure organizational environment that gives you a sense of security, a lack of fears, both of criticism and the “theft” of the idea by co-workers, and the transparent incentive system that takes into account the employees’ initiative and rewards employees for their active participation in the innovation process, while allowing and accepting impractical solution, mistakes and risk associated with them that appears.

The problem seems to be developing a strategy for the organization development, including, in particular, such elements that are related to its innovation activity, and then making the employees aware of it. However, it is not only about informing about innovation, but also about making employees aware of the purpose of this activity in the organization, their roles in the innovation process, as well as their ability to influence this process. Improving the flow of information on innovative activity is also significant.

Figure 5. Barriers to innovation activity

<table>
<thead>
<tr>
<th>Element</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureaucracy</td>
<td>35.8</td>
<td>22.4</td>
<td>20.9</td>
<td>16.4</td>
<td>10.4</td>
<td>10.4</td>
<td>10.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of credit</td>
<td>32.8</td>
<td>23.9</td>
<td>26.9</td>
<td>10.4</td>
<td>10.4</td>
<td>10.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No funds</td>
<td>23.9</td>
<td>29.9</td>
<td>20.9</td>
<td>17.9</td>
<td>15.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very high risk</td>
<td>14.9</td>
<td>14.9</td>
<td>43.3</td>
<td>14.9</td>
<td>11.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too low qualifications of employees</td>
<td>11.9</td>
<td>22.4</td>
<td>17.9</td>
<td>29.9</td>
<td>17.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reluctance of employees to propose ideas for improvement and completely new solutions</td>
<td>7.5</td>
<td>31.3</td>
<td>19.4</td>
<td>26.9</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: Own study.
Conclusions

Innovation has a social dimension, it is the result of a variety of interactions and relationships between individual actors and in order to be implemented, it must have social approval, because it changes paradigms, both in the ways of thinking, production, organization and management, as well as consumption. The key innovative resources directly affecting the innovation include human capital resource—human capital has a dual meaning here: it is a creator of new knowledge and a factor enabling adaptation and absorption of external knowledge. The importance of a human factor in the process of change, such as innovative processes, is due to the fact that organizations change through people— it is people who need to assimilate the change, take on new tasks and then develop them. Therefore, the problem of change needs to be considered from the perspective of people involved in the process.

According to the research, the feeling of uncertainty associated with change during and after completing the innovation implementation process can lead to resistance of employees, including sabotaging change. The problem may also be a reluctance of employees to propose ideas for improvement and completely new solutions, resulting from the lack of a sense of security and fears, both of criticism and the “theft” of the idea by co-workers, a lack of confidence to the employer and no clear incentive system taking into account the employees’ initiative and rewarding them for their active participation in the innovation process.
**Introduction**

Small and medium-sized enterprises are forced to implement innovations because they are under constant pressure of the environment, competitors in the market. Intensifying innovative activity is one of the main tasks of small and medium-sized enterprises (SMEs) nowadays. Small and medium enterprises (SMEs) play an important role in modern economies because of their flexibility and ability to innovate. In nearly every country, SMEs play a significant role in providing employment opportunities and supporting large scale manufacturing firms. SMEs are a source of innovation in all industries and they provide jobs for the citizens of the countries concerned. They also offset the negative economic trends and support the restructuring of industries. 21.6 million small and medium-sized enterprises, i.e. 99% of all European enterprises contribute to creating 88.8 million jobs, 66.8% of total employ-
Innovative activities of SMEs in Poland

Innovation is any change, favourable by definition, in different areas of the organization activity, introducing progress compared to the existing state, developed in or outside the organization, being a response to the needs signaled or satisfying the needs previously un-
revealed. It’s a process to adopt any change pertaining to a device, system, process, policy, or service that is new to the organisation (Brown and Ulijn (eds). 2004). The basis for developing and implementing innovation is appropriate knowledge resources in the form of inventions, industrial designs, acquired licenses, proprietary copyright, know-how, formulas, etc. It can be assumed that the essence of innovation is knowledge and learning. Innovative activity involves businesses engaging in different types of scientific, technical, organizational, financial and commercial activities, which are intended to lead to innovation implementation. Some of these activities are innovative, while others are not new, but are necessary for the implementation of innovation. Innovative activities also include research and development (R&D), which are not directly related to the development of a specific innovation.

In 2013 there were about 21.57 million active enterprises in EU28 (Annual Report 2013/2014) (1.4 million companies operate in Poland (Table 1), which places the Polish economy in the sixth place in the EU in terms of their number. However, compared with the EU average, the SME sector in Poland is increasingly dominated by micro-enterprises, whose share in the total number of companies is 95.7% (in the EU – 92.2%). The share of small enterprises in the SME sector in Poland (3.0%) is about half the size of the EU average (6.2%), while the share of medium-sized companies is close to the EU average (1.1% – Poland, 1.0% – EU) (Annual Report 2013).

Table 1. The SME sector in Poland in comparison with the EU in 2012

<table>
<thead>
<tr>
<th>Type of enterprise</th>
<th>Number of enterprises</th>
<th>Employment</th>
<th>Value added (EUR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poland</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Micro-</td>
<td>1,339,817</td>
<td>95.7</td>
<td>3,060,776</td>
</tr>
<tr>
<td>Small</td>
<td>41,961</td>
<td>3.0</td>
<td>973,749</td>
</tr>
<tr>
<td>Medium</td>
<td>14,930</td>
<td>1.1</td>
<td>1,547,126</td>
</tr>
<tr>
<td>SMEs total</td>
<td>1,396,708</td>
<td>99.8</td>
<td>5,581,651</td>
</tr>
<tr>
<td>Large</td>
<td>3,175</td>
<td>0.2</td>
<td>2,607,341</td>
</tr>
</tbody>
</table>

You may notice a correlation between the size of companies and their innovative activity. Although small and medium-sized enterprises dominate in the market in terms of their number, their share in the total number of innovation active enterprises is not even half (small enterprises constitute 9.5%, medium-sized – 26.3%). In 2009-2011, compared to the previous two years, there was a decline in the share of innovation active enterprises in both the industrial enterprises (from 18.1% to 16.9%) and services sector (from 13.5% to 12.3%) in the overall number of these entities.

Given the Polish profile of the SBA (Small Business Act), which was improved in next years since 2004-2005, when the majority of indicators (including internationalization, skills and innovation, the single market, financing, flexible administration) were below the EU average, four could not be calculated due to the lack of data, and only in the category of entrepreneurship Poland performed much better than the average level in the whole Union. In 2010-2011, the results close to the EU average were noted in the areas of funding (access to financing sources) and in the first think small category. In both these categories, the results were better than in the previous period examined, which shows an upward trend. In 2012, already three areas were above the EU average: entrepreneurship, financing and environment. The remaining seven areas are not yet at the sufficiently satisfactory level, and the area of „skills and innovation” is the worst. Despite the fact that the situation for SMEs was improving, in 2009-2011, compared to the previous two years, there was decline in the share of innovation active enterprises in both the industrial enterprises (from 18.1% to 16.9%) and in the service sector (from 13.5% to 12.3%) in the total number of these entities. Undoubtedly, the economic crisis has negatively affected the innovative activity. Investments are of great importance to enterprises, including small and medium-sized ones. The level of innovation in SMEs determines the volume of investments in small entities. Without investments it is not possible for a company to function in the contemporary socio economic conditions. Investments are one of the most important ways for a company to grow. Investments should enable the company to stay afloat in the market and compete, providing it with such features as modernity, innovation, flexibility and adaptability. Significant importance of investments for the SME sector is confirmed by the data on the volume of investments made by small entities (Wolański 2009). In the subsequent years until 2008, an increase in investment was reported. However, the economic crisis has slowed down the dynamics of investment in small, medium-sized
and large enterprises. Such a slowdown has not been observed as regards the smallest companies. The volume and sources of financing investments made by SMEs are presented in Tables 2 and 3.

Table 2. Capital expenditures of enterprises in 2003-2011 in Poland (in PLN million)

<table>
<thead>
<tr>
<th>Years</th>
<th>Enterprises (number of people employed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>2003</td>
<td>77 397</td>
</tr>
<tr>
<td>2004</td>
<td>90 392</td>
</tr>
<tr>
<td>2005</td>
<td>99 973</td>
</tr>
<tr>
<td>2006</td>
<td>114 340</td>
</tr>
<tr>
<td>2007</td>
<td>144 280</td>
</tr>
<tr>
<td>2008</td>
<td>160 539</td>
</tr>
<tr>
<td>2009</td>
<td>143 751</td>
</tr>
<tr>
<td>2010</td>
<td>141 939</td>
</tr>
<tr>
<td>2011</td>
<td>161 240</td>
</tr>
</tbody>
</table>


Table 3. Sources of financing investment in the corporate sector in 2011 in Poland (in %)

<table>
<thead>
<tr>
<th>Enterprises</th>
<th>Own funds</th>
<th>Budgetary funds</th>
<th>Domestic borrowings</th>
<th>Foreign funds</th>
<th>Other sources</th>
<th>Unfunded expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>69.96%</td>
<td>4.29%</td>
<td>10.21%</td>
<td>6.84%</td>
<td>4.81%</td>
<td>3.88%</td>
</tr>
<tr>
<td>Small</td>
<td>59.44%</td>
<td>3.34%</td>
<td>19.26%</td>
<td>10.81%</td>
<td>6.46%</td>
<td>0.70%</td>
</tr>
<tr>
<td>Medium</td>
<td>65.58%</td>
<td>3.68%</td>
<td>16.63%</td>
<td>7.98%</td>
<td>4.69%</td>
<td>1.44%</td>
</tr>
<tr>
<td>Large</td>
<td>73.72%</td>
<td>4.72%</td>
<td>5.99%</td>
<td>5.62%</td>
<td>4.52%</td>
<td>5.44%</td>
</tr>
</tbody>
</table>


One of the most commonly used indicators to assess the innovativeness of enterprises is the percentage of companies implementing product or process innovations (Łapiński 2010). Product innovations allow you to gain competitive advantage through a change in the product/services that the company offers, and process innovations allow the rationalization of production. In the case of medium-sized companies, they introduced twice as many product innovations as
organizational and marketing ones (Table 4).

Table 4. Types of innovations implemented by companies of all sizes

<table>
<thead>
<tr>
<th>Type of Innovation</th>
<th>Enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small</td>
</tr>
<tr>
<td>product and process innovations</td>
<td>9.5</td>
</tr>
<tr>
<td>organizational innovations</td>
<td>5.9</td>
</tr>
<tr>
<td>marketing innovations</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Source: *Activity of non-financial enterprises in 2011, 2013. CSO*

Innovation is an area, which is a matter of concern in the case of SMEs in Poland. In this area, Poland is significantly different from the EU average. In the ranking of innovation for 2013, Poland was ranked in the third group of “Moderate innovators.” After dropping from the Moderate to the Modest innovators in 2012, Poland has returned to the group of Moderate innovators by achieving an innovation performance slightly above 50% of the EU average. Poland is performing below the average of the EU for most indicators. Relative weaknesses are in Non-EU doctorate students (Poland: 1.9%, EU27: 24.2%), PCT patent applications in societal challenges (Poland: 0.25%, EU27: 0.9%) and License and patent revenues from abroad (Poland: 0.21%, EU27: 0.77%). Relative strengths are in Non-R&D innovation expenditures (Poland: 1.02%, EU27: 0.56%) and Youth with upper secondary level education (Poland: 89.8%, EU27: 80.2%). High growth is observed for Community designs (Poland: 4.76%, EU27: 4.75%), Community trademarks (Poland: 3.21%, EU27: 5.91%) and R&D expenditures in the business sector (Poland: 0.33%, EU27: 1.31%). Strong declines in growth are observed in Innovative SMEs collaborating with others (Poland: 4.2%, EU27: 11.7%), New doctorate graduates (Poland: 0.5%, EU27: 1.7%), SMEs innovating in-house (Poland: 11.3%, EU27: 31.8%) and Sales share of new innovations (Poland: 8.0%, EU27: 14.4%) (2013 SBA Fact Sheet).

The results of research conducted by the Central Statistical Office and the Polish Agency for Enterprise Development indicate that capital expenditures are closely linked to the acquisition of fixed assets by enterprises: investment in machinery, equipment, land, buildings were between 65 and 85% of the declared expenditures on innovation in the past decade, while expenditures on research and development were only 10% of this amount, the purchase of rights and licenses
– about 15%. As regards SMEs, the capital expenditures on build-
ing and structures in 2011 amounted to approx. 50%, on machin-
ery and equipment – approx. 30%, the means of transport – approx.
18%. The smaller the company, the greater the share of expenditures
on buildings and structures (micro – 54.6%, small – 62.1%, medium
– 41.0%, large – 39.9%) and means of transport (micro – 23.7 %, small
– 11.1%, medium – 18.0%, large – 9.0%). Less economic potential of
small entities, and the scale of the costs associated with these invest-
ments cause that smaller enterprises can spend less on machinery
and equipment (micro – 21.7%, small – 25.6%, medium – 40.5%, and
large – 49.9%), which results in their under-investment in technology
(Innovation Union Scoreboard 2014). Most companies do not have
departments dealing with research and development, development
and transfer of knowledge and innovation. It should also be noted
that large companies play the leading role in investing in innovation
in Poland.

The effectiveness of innovation processes in SMEs

The basic characteristics of innovation management in small and
medium-sized enterprises can be described as follows:
- innovative activity objectives – to develop new products and or-
  ganizational solutions, allowing companies to gain competitive
  advantage,
- basic sources of product innovation – requirements of custo-
  mers, suppliers of equipment and materials for production,
  professional publications,
- basic sources of organizational innovation – top management,
  management standards requirements,
- a way of developing new products – R&D activities conducted
  in an informal manner as part of company’s current operations;
  the functioning within the framework of network structures;
- a way of managing the process of innovation – an informal ap-
  proach to management; lack of resources and competencies
  to manage large and complex systems and processes; no skil-
  ls to implement long-term innovative projects;
- characteristics of the decision-making process - effective com-
  munication, an informal decision-making mode translates into
  faster action and changes;
- access to new technologies – limited; their competencies are
  often limited to one/few areas of technology; focus on selected
aspects of the research and development activity;
– methods of assessing introduced innovations – the assessment conducted by top management based on competencies and experience (Kalinowski 2010).

Unfortunately, the level of innovation of Polish SMEs is much lower than the level of innovation of SMEs in most EU – 27 countries. In the Innovation Union Scoreboard report published in 2011 by the InnoMetrics research institute for the European Commission, own innovative activity of SMEs was rated as very poor (the value of SII -Summary Innovation Index) for Poland was 13.76, while the EU27 average was 30.31), similarly the cooperation of SMEs in terms of innovation with other companies in the market (Poland = 6.4, the EU27 average = 11.16) and the sale of innovative products and services, new from the point of view of the market or the company (Poland = 9.84, EU27 average = 13.26) (Norek 2013).

The findings of the research on the effectiveness of innovative activities, conducted by T.Norek can be referred to, which indicate that half of the surveyed companies (50%) have a low level of innovation (innovation level <10%), which classifies them in the category of non-innovative companies. Only 6% of the surveyed companies could be regarded as innovative companies, which have implemented new products or services over the past three years (innovation level> 10%). These results show that the surveyed companies do not have sufficient innovative potential, which enables the implementation of innovative projects. Other research by this author confirms this thesis and shows that the surveyed companies have the lowest innovation potential in the areas of innovation assessment and planning, communication and organization or financing the innovative activity (Norek 2013).

**External and Internal determinants of SME innovativeness**

Innovativeness of enterprises from the SME sector must be supported by the appropriate innovation policy in Poland, understood as the process of promoting innovative activity of enterprises. The measures contained in the innovation policy should motivate entrepreneurs to innovate, they should reduce the difficulty of making and implementing innovation, reduce the degree of risk and uncertainty and to provide advisory support to entrepreneurs who are not fully familiar with the mechanisms of implementing innovation (Mizgajska 2010). SMEs often do not conduct innovative activity because without having own funds, they cannot or are not able to raise external capital.
Another barrier is the lack of knowledge, on the one hand due to the lack of competence of the owner or managers, on the other hand due to the lack of separate R&D units in small and medium-sized enterprises. Uncertain demand also is a big barrier to this type of companies because if they launch the wrong product, they may end up bankrupt. The SME sector has bigger problems than large companies in finding and evaluating a variety of external resources, their assimilation, transformation and use; small companies are more vulnerable to the quality and openness of the environment (Mądra 2013).

The huge role of the environment is, which has a very important impact on the innovation capacity of enterprises. However, the effective implementation of innovation and reasonable management of innovation capacity in the company requires the focus primarily on such external conditions, which turn out to be crucial. External conditions consist of different factors, which are not equally important. Company’s innovation activities are also largely influenced by factors created by the region in which it operates. These factors are mainly: the labour market, resources of technical knowledge and scientific information, and the willingness of institutions to finance activities burdened with a high degree of risk (Poznańska 1998).

According to Lesakova (2009) the most important factors include: (a) innovation policy framework - is represented by innovation policies, strategies and documents supporting the creation of innovative business environment in the national and regional context; (b) macroeconomic framework – represents the economic basis for the effective innovation policy (e.g. the level of public expenditure on R&D, investments into education); (c) institutional framework – is constituted by institutional infrastructure to support the innovation activities (various ministries and institutions, regions and regional institutions, state and private institutions, agencies at national as well as regional level, whose direct or indirect task is to stimulate innovation in the areas of their competence).

SMEs have characteristics that are beneficial from the point of view of innovation processes and can be their innovative advantage compared to large companies, namely: they have flexible and entrepreneurial management structures that allow them to adapt to the changing market, no bureaucracy and administrative constraints, informal and effective internal communication, willingness of managers to take risks, ability to exploit new high-risk markets, SMEs often do not have the earlier, now partly obsolete generations of technology, so they do not burden the introduction of new technologies.
Innovation capacity of the company is shaped by key elements: (a) financial potential - their own funds and funds available in financial and non-financial institutions, (b) human potential – the staff employed, their number, structure and their competences, (c) material potential - the structure of the production potential, the ability to quickly adapt production to the changing needs of the market, the state of the machinery, (d) knowledge – technical knowledge and information from the market (Poznańska 1998). The importance of internal innovation capacity is highlighted, which includes resources and competences available to the company, and that can be used in the current innovative activity. The following are also of great importance: physical resources collected, gathering information about the latest trends in technological development, evaluating information and decision-making in different areas of company activity such as finance, marketing, and production and product development.

At the same time, the analysis of the models of the innovation implementation in the company (Lager 2011) and research on innovation determinants (Hall and Rosenberg 2010) reveal that the key factor regulating efficient implementation of the innovation processes is the internal innovation potential of companies. The list of required conditions includes: culture supporting innovation, creativity enforced by the market, the will and ability to learn, the ability to profit from company’s competences to conduct innovation processes, internal communication, issue of planning projects in the field of innovation and financing of innovative projects (Norek 2013).

In addition to staff as an element forming the internal innovation capacity, Żołnierski (2005), also lists research and development (isolated R&D units, R&D being conducted, contracted services, etc.) and technology (computers and ICT technology, machinery and equipment, as well as their degree of modernity).

Innovativeness perceived in terms of a subject is seen as a specific competence. According to the theory of competence (Boyatzis 1982), it includes knowledge, skills, values, attitudes, and they are components of the company innovation potential, including a set of resources enabling it to achieve the innovation-related objectives. A category of competence (here as a component of innovation) is gradable, which means that through appropriate interaction (management, coordination) it may influence the change in its states (Bal-Woźniak 2013). Four areas are crucial to effectively implement innovation: leadership behaviour, management processes, people and skills, organizational culture and values (Leiponen 2005). On the basis of these areas, sus-
tainable internal competence is built for innovation as a continuous process, not incidental, short-term effort. A prerequisite for the effective team activity, whose task is creative, innovative problem solving, is the openness and willingness to share knowledge and experiences with others. This approach is partly due to personality determinants of team members, so organizational culture is also important here, which can effectively promote or inhibit cooperation, exchange of knowledge, experience and ideas. A key to the development of innovation in an organization is support, and encouragement for every employee to seek and discover unconventional, non-standard ways of achieving objectives and performing tasks. Thanks to the participation, an employee has greater responsibility, but also bigger motivation (he/she is not only the “robot”, an individual carrying out a superior’s order). However, it is necessary to create an environment giving a sense of security, lack of fear, both of criticism and “theft” of the idea by co-workers, and a transparent incentive system taking into account the initiative of employees and rewarding for their active participation in the innovation process, while allowing and accepting impractical solutions, mistakes and risk associated with them. Personality of team managers, who initiate new projects, or give the “green light” to the initiatives submitted by employees, is also significant (Brouwer 2002). Excessive formalization and bureaucratization of processes, as well as extensive control structures are not conducive to innovation. They both delay the decision-making processes, and inhibit the creativity of employees.

**Conclusion**

The SME sector is characterized by a dynamic approach to the environment. Such companies quickly respond to the changing needs and preferences of potential customers. Very often they have very accurate understanding of the market situation and as a result it is a lot easier for them to take on new investments and projects. Small and medium-sized enterprises are one of the main factors of socio-economic growth of the state. They are a kind of stimulus to the development of the economy. Undoubtedly, however, SMEs and in particular the smallest, local companies, with little capital, have limited opportunities to be innovative companies. For such companies the primary goal is to survive in the market. Therefore, there are few innovative companies among small enterprises. Medium-sized enterprises have a much better situation, there are 15% innovative companies among
them. Activities characteristic of innovation such as R&D, possession of patents, licenses, trademarks, modern, unique products depend on SMEs to a small extent. The real innovativeness of SMEs remains at a low level and improves very slowly. As regards innovation, growth is very slow and relates mainly to medium-sized enterprises.

Among SMEs, there is a group of truly innovative companies, mostly medium-sized. These companies differ significantly from the others and they are an example of an innovative approach to business. They are also a proof that you cannot say that innovativeness of SMEs has not improved at all. It is at a low level, but it does not stagnate. However, there is also no progress in innovativeness of all SMEs. The proportion of really innovative SMEs is very small.

SMEs have yet to make a lot of effort so that progress in their innovativeness could be observed. First of all, they should strive more towards this goal, using their own potential and opportunities emerging in the environment. The positive factors include new legislation on capital expenditures and a possibility to use structural funds. Currently, one should be happy that SMEs innovations do not stagnate.

Despite the difficulties SMEs are increasingly aware of the need for such activities in the area of innovation, a number of companies undertaking such projects is steadily growing. Small and medium-sized enterprises are forced to implement innovations because they are under constant pressure of the environment, competitors in the market. Although the financial and economic crisis has significantly slowed down investments made by SMEs and their capital expenditures, they are slowly regaining their pre-crisis level. However, the process of innovation implementation in small and medium-sized enterprises requires support, both financial and in terms of education.
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