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# THE COMPETENCIES OF AN INDIVIDUAL IN THE CREATION OF NEW IDEAS IN THE ORGANIZATION

Dana Mesner Andolšek<sup>1</sup>, Anja Jerković<sup>2</sup>

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## Abstract

Purpose of this article is dedicated to addressing innovation from a person – organization point of view where the focus is on the individual and his competencies in the innovation process. Our study focuses on skills that an individual needs to successfully design new innovative ideas. The analysis includes samples from 17 countries and more than 70000 respondents. The results show that social competence, together with work, active and cognitive competence, is very important in creating innovative ideas of employees in the organization.

**Keywords** - innovation, process of innovation, active, work, cognitive and social skills of an individual

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## Introduction

Already in the 20<sup>th</sup> century, Joseph Schumpeter (1961) saw the innovation as the driving force of the economic development. Innovations are defined as the economic changes occurring in the context of entrepreneurship and stimulate economic development, because through the phenomenon of destruction they destroy the existing economic equilibrium and promote development (Schumpeter, 1961). Even after so many years, the Schumpeterian definition is still relevant, because ever since, we consider innovations in the light of significant changes. Innovations represent the production of knowledge and information (Arrow, 1971) and the means of achieving change and success (Drucker, 1993; Gimber, 2011).

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To this end, in this article we focus on innovative work behaviour (IWB) (De Jong and Den Hartog, 2007) of individuals with the help of the management of competencies. The objective of this study is to determine whether there are specific competencies that have a significant impact on the performance of the individual in the creation of new, innovative ideas, as well as what these competencies are.

Bellow, we will first look at how the process of innovation within the organization unfolds, then we will review the literature that focuses on individual behaviour in the innovation process and the individuals' competencies. We will review the existing theoretical models, form one of our own and subject it to an empirical test. We will show the results, findings and conclude with a discussion and conclusions.

## **Innovation**

For some initial innovative idea to move from being a concept to its elaboration and design, and then the actual use of it in practice in an organization, requires a number of activities. "Innovation is a process with many levels and each level requires different activities and different operations" (Scott and Reginald 1994, 582).

The first phase is called the invention and it represents the beginning of the innovation process, as this is the stage in which the basic idea emerges. Invention is an idea that could be developed into new useful solutions. This phase consists of actions that are related to the perception of the problem. It is a collection of information, data and knowledge (Damanpour, 1996). The invention is primarily dependent on the individual who is able to recognize an opportunity for change; the identification of a problem and the creation of its solution is the main point of an invention. This phase is crucial for the whole innovation process, since "recognition of opportunities represents a bridge between the breakthrough idea and its evolutionary process" (O'Connor and Rice 2001, 95). Schweizer (2006) developed the novelty generation model where novelty seeking, creativity and innovative performance are proposed as key components of the novelty generation process.

The phase following the initial invention phase is called innovation. It is essential for this phase for the inventions to get through various activities in order to transform it into an innovation (Damanpour, 1996). The phase of innovation therefore includes all those activities from development, research, testing, manufacturing,... that lead to the final application and practical use. In our study we focus on the first phase of the innovation process. The innovation process is always initiated at the level of the individual, as the initiative always comes from the individual. The

individual is the one that births the new idea that can potentially develop into an innovation. Schweizer (2006) research showed that specific motivational states, neurocognitive and personality traits as well as social environments affect the three related components of novelty generation process which are novelty seeking, creativity and innovative performance.

The innovativeness of an individual is reflected in its innovative work behaviour (IWB). IWB represents the “introduction and use of new ideas, products, processes, and procedure in work roles, work units and the organization. This behaviour is reflected in the finding of new technologies, proposals for new ways to achieve goals, introducing new methods of working, studying and finding resources for the implementation of new ideas” (Yuan and Woodman 2010, 324). We understand innovative work behaviour as a multi-dimensional overarching construct that captures all behaviours through which an employee can contribute to the innovation process. In our analysis, we understand innovative work behaviour, which includes three levels of this process: novelty-seeking, the production of new ideas (creativity) and the implementation thereof through the use of individual behaviour (De Jong and Den Hartog, 2007).

Innovation is created by an individual who has a role as a creator of ideas. In some cases, the individuals are involved in the whole process of innovation: from developing ideas to the complete deployment of the innovation. Creative individuals however mostly play only a partial role in the innovation process – as catalysts. In the initial phase, it is extremely important to develop a system of interaction, as creators develop ideas in interaction with others. The idea is thus in most cases the result of a group within a given structure (Sundbo, 2002, 119). Here we could introduce an understanding of innovation as an individual operation or as a group activity. It is clear that at this stage there are already several abilities included that individuals must possess, and social skills are among them, since they are necessary for this part of the process of innovation. From the pool of social psychological theories (Amabile and Pillemer, 2012; Schweizer, 2006), social influence, social comparison and social judgement research provide good tool of in-depth approach to the social aspects of the novelty generation process.

In order to develop an innovation, an individual or a group must go through two stages:

The first step is the definition of the problem: doing this, interaction among other people – they can be colleagues, clients or other people outside the company, such as friends, family members - helps individuals to identify problems in society, for which there are no solutions yet (Sundbo 2002, 120).

The second step is to solve the problem which requires the development of certain new ideas and this requires creativity of individuals, level of education, communication, systematic (at formulating solutions), determination (at deciding which ideas are to develop further), goal orientation and persistence in achieving them (Sundbo, 2002, 120).

Studies (Tang 1998, 298) have shown that creative individuals having common the following characteristics: theoretical and practical knowledge on a relevant field, curiosity, determination and perseverance, success in problem solving, especially new ones, the ability to ask the right questions, receipt of all knowledge as a whole and a willingness to leap from a variety of fields.

Since the task examines mostly the individual and his involvement in the introduction of innovations, we can look at the *general characteristics* of the creative individuals. Steiner (1965) recognized: *Intellectual characteristics* such as trained conceptual thinking, conceptual flexibility, originality, tendency towards the complex; *Personality characteristics*, such as independent opinion, acceptance of spontaneity; and *The method of problem solving*, such as *motivation, professional commitment, tempo*.

Merrill (2008) and Scott (1994) do point out the difference between creativity and innovations. Creativity is just one of the characteristics necessary for successful innovation.

Some researchers have used models of creativity, which included the implementation of these ideas as well (Basadur, 2004). Basadur distinguishes between problem finding, problem conceptualization, problem solving, and solution implementation. In line with this, in a review of creativity research, Mumford (2003) recommends that future work on creativity should investigate »late-cycle« skills - the expression, shaping and execution of new ideas – represents »another important component of creative work« (Mumford, 2003,116) and consider the investigation of implementing ideas to be an important emerging issue. Schweizwer (2006) addressed three important socio psychological

theories that provide good tools for an in-depth approach to the social aspects of the novelty generation process. First is the impact of social environment where novelty seeking and creativity activities take place (Bandura, 1977). The second is the social comparison which is a way for an individual to find his or her way in the creative process. However it is not only individuals who compare themselves to others, but also those who see the products of their creative process compare them to others. The third is social judgement process where label of “creative” is being attributed.

Individuals can display novelty-seeking and creative behaviour but only the judgement of others may label this result as new that is “innovative”. It is a long established in psychological literature that the judgement of knowledge others such as experts, peers and supervisors are key in assessing the value of individual’s contribution. The question is: whether the evaluation of the individual’s productive efforts really belong under the heading of the creative process as such. Is this not a factor belonging to the achievement of the innovative performance rather than creativity performance. The dilemma was solved by Schweitzer’s model (2006) of Novelty generation process. The model is useful since it solves some theoretical and methodological problems of the novelty generation process.

Frames of this concept were constructed by Scott and Bruce (1994) by studying the factors that affect the innovative behaviour of an individual at work (IWB). Their research has shown that innovative work behaviour of an individual is affected by management, the support for innovation in organization, the nature of an individual performs and the way of thinking of an individual (Scott and Bruce, 1994; Yuan and Woodman, 2010). Individuals are largely restrained from innovative behaviour at work mainly because of fear of negative reaction of other and because they do not believe that such behaviour would contribute to the positive results of their work (Yuan and Woodman 2010, 337).

The research carried out by Montani, Odoardi and Battistelli (2012) also confirmed that the support of superiors and colleagues has a very big impact on an individual’s innovative behaviour and orientation towards change (Montana et al., 2012; de Jong and Den Hartog (200; (Martinez-Sanchez, Vela-Jimenez, Perez-Perez, & De-Luis-Camicer, 2008).

The social environment can represent a significant barrier to innovative work behaviour of an individual, so we assume that the skills that are the basis for positive interventions in the social environment can be very important for the success of the implementation of new ideas. People

who have creative potential may have difficulties in generating creative ideas because of their own blockages, such as self-restraint, social pressures or focusing on the past experience and habits (Tang 1998, 298). We are assuming as did Chan and Man (2011) and Hall (2010) from the theoretical assumption that creativity and innovation are necessary to be understood as “the social and collective” rather than the individuals as a result of social, cultural and technological changes (Hall 2010, x). The pressing question is as follows: What are the social skills that help an individual in his IWB and obtaining support from the immediate social environment in the process of social judgment so that the innovative behaviour of the individual can be successful? In short, innovative work behaviour of an individual is primarily affected by the type of support from the organization, managers and colleagues, manner and type of work that an individual performs (Martinez-Sanchez et al., 2008), the individual’s ability to use thinking to develop innovative ideas and social skills to overcome barriers of the social environment. For designing and developing new ideas an individual needs certain knowledge, abilities, skills and experience. These properties are included in the individual’s competencies. The more an individual has developed the relevant competencies required to perform the activities within the innovation process the more the individual will be successful in the process.

## **Competencies**

An important contribution to the field of the study of competencies represent the work of McClelland (1973). He defined competencies as knowledge, skills, characteristics, habits, self-awareness, values and motivation to achieve the goal (McClelland, 1973). In addition Boyatzis (2008) defines competence as “given abilities or capabilities of an individual” which are expressed in a complex of behaviours that an individual chooses on the basis of the final goal and the given situation, while striving for the best possible effect. Dubois and Rothwill (2008) define competencies as “those characteristics that an individual possesses and applies in a permanent and appropriate manner with the objective of achieving the set goal in the level of efficiency. These characteristics include knowledge, skills, self-esteem, social motives, methods and patterns of thinking, feeling and modes of behaviour (Dubois and Rothwell, 2008, 16).

What are these competencies that an individual needs to be successful in creating new ideas? Talke et al., (2006) studied the competencies in the initial phase of the innovation process. In their view, the development of initiatives for the innovation process is significantly affected by three types of competencies. Action competencies represent an introduction to

the initiative. They mostly reflect the will and readiness of the individual to carry out an action and the individual's motivation, regardless of the obstacles that arise in this process. Working competencies represent cognitive thinking ability, which allows the identification of the problem and the solution. Cognitive competencies represent competencies that enable the identification of problems and finding new solutions (Talke et al., 2006). Therefore we formulated our first *hypothesis H1: There are certain competencies that distinguish those individuals, who are involved in the creation of new ideas from those individuals who are not involved in the creation of new ideas.*

### **Working competencies**

The essential elements of job competencies represent appropriate knowledge, experience and ability to work. Knowledge is the basis of competence, while experiences affect how an individual uses the acquired knowledge (Weinert, 2001). An individual needs the working competencies in the process of innovation, because they provide the individual the knowledge and skills to help identify the problem and formulate appropriate solutions (McCain, 1996; Tidd et al., 2005; Talk et al., 2006). Our *second hypothesis states H2: For the creation of new ideas working competencies are necessary.*

Working competencies thus allows the individual to easily identify specific topic issues, and know-how on how to address a problem (de Bono, 1990; Tidd et al., 2005; Talk et al., 2006; Pečjak and Štrukelj, 2013).

### **Action competencies**

Summarizing Weinert (2001) action competencies consist of motivational tendencies of the individual, intellectual and cognitive skills, specific knowledge and values of the individual. Action competencies represent those competencies that affect the individual in a way that the individual begins to seek new solutions. These competencies represent a kind of leverage that prepare the individual to "act", representing the motivation needed to search for and study new ideas and solutions (Talke et al., 2006).

"Motivation is a key ingredient for the promotion and maintenance of high efficiency and creativity among individuals" (Katz 2003, 3). Motivation "serves as a focus of attention for directing energy and strengthens the link between resources" (Tidd et al., 2005, 195). Action competencies therefore enable the individual to begin the process of searching for new ideas and solutions and, in particular, insisting in the

process until the completion of the design of the final idea irrespective of any external factors that could influence it. We formulated our third hypothesis *H3: For the creation of new ideas action competencies are needed.*

### **Cognitive competencies**

“Cognitive competencies represent the individual’s ability to think ‘outside existing frameworks’ (Weinert2001), the ability of application of new methods and techniques to explore problems and further systematic development of new solutions” (Talke et al., 2006, 377).

The creation of new ideas is otherwise closely related to the “lateral thinking, because it deals with the generation of new ideas” (de Bono 2006, 2). Vertical thinking is analytical and helps individuals develop and improve ideas. Vertical thinking (de Bono 2006). For the creation of new ideas it is also important the distinction between divergent and convergent thinking. As pointed out by Bilton (2007), the assumption that creativity depends only on divergent thinking is erroneous. If we want to achieve successful results, the creative thinkers (individuals) must jump from divergent to convergent thinking and vice versa. This was also shown in the study of Scott and Bruce (1994). We developed our fourth hypothesis *H4 which states: For the creation of new ideas cognitive competencies are necessary.*

### **Social competencies**

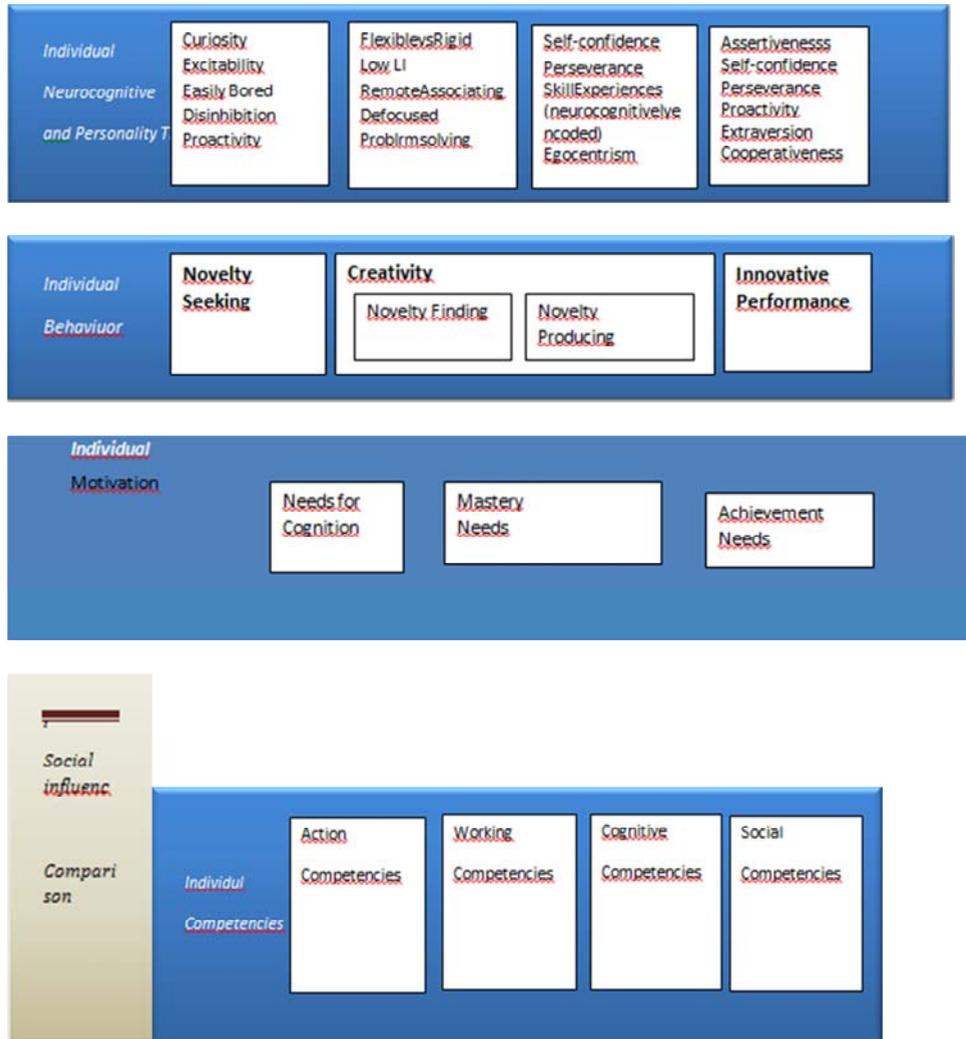
In exploring innovations the social competencies were first associated with the operation of innovation teams (Brown and Eisenhardt, 1995; Hilderbrand and Biemans, 2004; Cavagnoli, 2011; Amabile et al., 2012). Elise du Chatenier and co-authors (2010) conducted a study of competencies on individuals involved in innovation teams. The survey turned up some interesting results, which show the great importance of social skills in the innovation process. The main competencies of individuals were in fact proved to be: the ability of coordination (integration, negotiation and creating win-win situations), the ability to understand social situations (understanding of both social situation, as well as relations between individuals, accepting roles and accountability, cooperation and understanding) as well as the ability to create social networks (establishing and maintaining social contacts, active listening and the ability to interpret) (du Chatenier et al., 2010, 275-276).

In the innovation process, it is very important that individuals, who come up with new ideas, have skills that enable them to successfully introduce a new idea to others and persuade them into correctness and

effectiveness of the idea (Tidd et al., 2005). We therefore believe that the individual must in this type of presentation highlight themselves over the others and deal with the possible disapproval and criticism and argument the idea. In order to be successful in this, an individual urgently needs features such as self-confidence, perseverance, appropriate expertise and egocentrism (Schweizer, 2006, 168). Therefore we formulated our fifth *hypothesis H5: For the creation of new ideas social competencies are necessary.*

Figure 1: The updated Schweizer (2006) model

Schweizer (2006) model represent four types of competencies, which have a significant impact on the course of the first phase of the innovation process.



The model, which was formed by Talke et al. (2006) shows that in the first phase of the process of innovation three competencies are very important: action, working and cognitive competencies. Based on our discussions, we can add a fourth category of competencies – social competencies. The updated Schweizer (2006) model now contains four categories of competencies as shown in the figure (1) above.

When creating new ideas and solutions the individual needs to accomplish four important goals: first, successfully presents his idea; second, overcomes social barriers; third, yields success in social comparison process; and fourth, includes other competencies (other people) in that process.

## **Indicators**

The hypotheses will be tested using statistical analysis of the data collected in the framework of the project Reflex and project Hegesco. In these two projects two questionnaires that list twenty-one different competencies were designed. In order to verify our hypotheses, we classified some of these competencies into three groups:

1. In the first group of *action competencies* we combined the motivational tendencies, intellectual and cognitive skills and specific knowledge (Weinert, 2001). They are reflected in the individual's willingness, loyalty and motivation to search for new solution.

From the list of competencies we include two competencies into the action competencies group:

- Ability to search for new solutions and ideas
- Willingness to grab the opportunity

From our range of competencies we have chosen the competency of being able to find new solutions and ideas and the ability to grab the opportunity, which reflects motivation of an individual in a greater extent (Katz, 2003; Tidd et al., 2005; Pečjak and Štrukelj, 2013).

2. In the group of *work competencies* we have classified;

- Expertise and practice in their field
- Appropriate knowledge, skills and experience are essential in creating new ideas (de Bono, 1990; Tidd et al., 2005; Pečjak and Štrukelj, 2013). The competence of expertise and practices on the field best reflect this kind of knowledge, skills and experience.

3. In the group of *cognitive competencies* we ranked;

- Willingness to mull over their ideas and the ideas of others
- Analytical thinking

Cognitive competencies are connected primarily with the individual's analytical thinking (Weinert, 2001). In formulating new ideas, it is first necessary to overcome the existing patterns of thinking (de Bono, 2006). Competence of the willingness to mull over own ideas and the ideas of others enables the emergence of new or improved ideas of an individual.

4. In the group of *social competencies* we have ranked:

- The ability of presenting products, ideas or reports to others
- The ability to co-ordinate operations
- The ability to effectively negotiate
- The ability to motivate others
- The ability to present products, ideas or reports to others represents one of the most basic social competencies needed by an innovative individual when the individual faces his co-workers and the environment with his reflections.

The last ability represents communication skills that are very important in this stage where social comparison process takes place. The ability to motivate others is important at this stage because the individual must convince others that the development of the new idea is worth the effort and the effort to check how it would work in practice. As the individual can rarely do this without adequate assistance of their colleagues, the innovative individual needs the consent, co-operation and assistance of the co-workers to overcome all barriers which may occur at this stage of the process. Motivation of others is critical in this stage to include other competencies into the process. The ability to co-ordinate operations is required in the next phase, when the innovative individual has already acquired the co-workers on his side and must somehow divide the roles or functions in a completely informal stage, as individuals must to some extent identify with a new idea and understand it. This is best achieved by the innovative individuals as they give meaning to the idea. Then they have to give roles and tasks, for the implementation of new ideas to others. The ability to negotiate effectively is a very important political competence that is needed in this stage, because of the resistances from the social environment and the associates that are usually present in the early stages of adopting new ideas. We can summarize that the innovative individual must possess communication skills, organizational skill and political skills for the individual to be successful in the presentation of their ideas in the organization. We believe that individuals without these social competencies will not be able to follow through their new ideas.

## **Data and Methods**

The data were collected in two large international projects: Reflex project (the name “Reflex” is short for Research into Employment and Professional Flexibility) and Hegesco project (Higher Education as Generator of Strategic Competence). The Reflex project is a comprehensive project researching the requirements of modern knowledge-based society in the field of work and a project researching the levels of competency that graduates acquire through education in college programs (Allen and Van der Velden, 2007, ix). The research involved about 70,000 graduates, who completed college, university, master’s or specialist’s studies. Respondents of the questionnaire completed it five years after graduation, so in the year of 2005. The project Reflex involved following countries: Italy, Spain, France, Austria, Germany, Netherlands, United Kingdom, Finland, Norway, Czech Republic, Switzerland, Portugal, Belgium, and Estonia.

The project Hegesco took place from 2007 to 2009 as a continuation of the project Reflex and involved more than 30,000 graduates. The project Hegesco involved five countries: Slovenia, Lithuania, Poland, Hungary and Turkey. Thus, project Reflex, as did project Hegesco, made use of the same questionnaire, which means that the data of both studies are compatible with each other and both represent a comprehensive database for the study of the field of work and higher education as generators of key competencies.

The analysis included 2000 questionnaires for each country as the responsiveness differed considerably between countries: Portugal 12% of respondents, Estonia 18%, Spain and Belgium 22%, UK 23%, Czech Republic 27%, France 32%, Netherlands 35%, Germany 36%, Austria 38%, Italy 43%, Finland 45%, Slovenia 49%, Norway 50% and Switzerland 60% of the respondents completed the questionnaire.

The respondents consisted of 60.5% females and 39.5% males. 88.7% of the respondents is aged between 25 and 35 years. 8.1% are aged between 36 and 45 years and 3.1% by the age of 45.

As for the statistical method to verify the hypotheses and research questions, we have used the discriminant analysis. “With the discriminant analysis we find the linear combination of measured variables so that it will maximally distance the predefined groups and so that the error in the classification of units as minimal as it can be” (Ferligoj, 2010). Using discriminant analysis, we can determine whether there are differences between the two groups on the basis of independent variables. Discriminant analysis allows us explaining and forecasting.

As independent variables we used the skills that are measured by the question: How do you assess your actual level of individual competencies? In competencies, the respondents expressed their level of individual competencies on a 7 point scale, where level 1 means “very low” and 7 means “very high”.

For the dependent variable we used the variable that was measured with the question: Are you in the following areas involved in introducing innovation in your organization?

a) Products and services; b) Technology, tools and instruments; c) Knowledge and methods

The variable has three areas that we programmed together using computation to get a new variable, which we named “Innovation overall: Are you involved in introducing innovation in your organization?” The new variable will have four values that we will transform into values of 0 and 1 using the “recode” function in the SPSS program, where 0 will mean “not participating in the implementation of innovations” and 1 will mean “participating in the implementation of innovation”, which means that the value of 0 includes those respondents who do not participate in the implementation of innovations in any of the above areas. All respondents at the level of 1 are involved in at least one of the above mentioned domains of introduction of innovations.

## **Results**

The results of discriminant analyses show that there are certain skills that are more specific to those individuals who are involved in the creation of new ideas than those individuals who are not included in this process. Analyses of variance showed that individuals who are involved in the creation of new ideas assess competencies higher than as those individuals who are not involved in the creation of new ideas. Competencies are grouped according to the value of standardized structural weights in the following table 1.

Table 1: Standardized structural weight

<b>Variable</b>	<b>Standardized structural weights</b>
Ability to search for new ideas and solutions	,709
Ability of presenting products, ideas and reports to others	,689
Analytical thinking	,592
Readiness to »mull over« their own ideas and the ideas of others	,526
Ability to coordinate others	,521
Ability to motivate people	,515
Expertise and practice in their fields	,454
Willingness to grab the opportunity	,417
Ability to effectively negotiate	,414
Knowledge in other areas	,392
Ability to build their own authority	,358
Ability to productively cooperate with others	,336
Ability to give express clearly	,326
Ability to quickly acquire new knowledge	,311
Ability to successfully work under stress	,305
Ability to write reports, records and documents	,301
Ability to read write in a foreign language	,260
Ability to work with a computer and the Internet	,255
Professional knowledge of other countries (economic, social, legal ... )	,202
Knowledge of cultural differences	,177
Ability to work with other people from other cultural backgrounds	,142
Ability to efficiently use the given time	,132

We see that the strongest weight in the competencies is the ability to find new ideas and solutions, as 0,709. Among the competencies that at least differentiate individuals based on their involvement in the creation of new ideas is also the ability to effectively negotiate, which carries the structural weight of 0,414.

Table 2: Discriminant analysis - combined data for 16 countries

Variable	Wilks' Lambda	Canonical correlation coefficient	Eigenvalue	Chi-square	% successfully classified units	Sig.
Overall innovation	0,945	0,234	0,058	238,829	74,0%	,000

The above table 2 shows the successfulness of the discriminant model. The values of the statistical characteristics show that the discriminant variable is statistically significant.

The proportion of the explained variance, which is shown to us by the Wilkis Lambda is (1-0,945). The higher the own values the better the discriminant function. The table shows that the Eigenvalue is 0.058. The quality of the discriminant function is also reflected in the successfully classified units. The number of correctly classified units is 74.0%. The canonical correlation coefficient shows the connection strength between the values of discriminant functions and the variable that determines the membership of a group. Its value is 0.234.

## Findings and Discussion

Based on these results, we can confirm the first hypothesis.

*H1: there are certain competencies that distinguish those individuals who are involved in the creation of new ideas from those individuals who are not involved in the creation of new ideas.* The results of discriminant analysis that we have carried out have confirmed that there are certain skills that are more specific to those individuals who are involved in the creation of new ideas, rather than for those who are not. Discriminant analysis has showed that for the individuals involved in the creation of new ideas, the most important competence is the ability to find new ideas and solutions. It is an entirely expected result, since innovation is a »the ability of significant improvement or developing certain areas or introducing something entirely new; finding new ways or solutions« (Majcen 2009, 62).

For the second most important competency, it has proven to be the competence of the ability to present products, ideas and reports to others. It is a social competency, which has a significant impact on the

development of ideas. On how successfully an individual presents his idea to others depends on whether the idea will attract their attention and interest so that co-workers will want to develop it in practice. This competence also shows how much in the process of innovation involvement of others is, not just the involvement of the creative individual. An individual can be successful in presenting ideas if the individual is self-confident and has the appropriate knowledge (Schweizer, 2006) and at the same time be convincing when doing so.

The next two competencies are the ability to motivate people and the ability to coordinate activities. These two competencies confirm that in the innovation process there are sets of different activities, that need to be properly coordinated with each other and that requires social skills. The results of discriminant analysis put the competency 'expertise and practice in their field' on the seventh place and 'the willingness to seize the opportunity' on the eighth place. The last place among major competencies occupies the social competence of 'the ability to successfully negotiate'.

The results confirm our third hypothesis *H3: For the creation of new ideas action competencies are needed*. Action competencies are those competencies that are reflected in motivation, mood and willingness to look for new ideas and solutions. We included the ability to find new ideas and solutions and the willingness to grab the opportunity in the action competencies. The results of the analysis indicated that the competence of the ability to find new ideas and solutions is the strongest characteristic of the individuals involved in the creation of new ideas. The competency of willingness to seize the opportunity also ranked among the most important competencies as it has a standardized structural weight of 0,417.

The results of the analysis also confirm our second hypothesis *H2: For the creation of new ideas the working competencies are needed*. According with the model (Talke et al., 2006), the work competencies represent existing knowledge, experience and skills. These competencies are important for the innovation process, because new ideas can be formed only through an already existing knowledge and not through the pure thought process (Talke et al., 2006). Amongst the work competencies we included the competency of expertise and practice of their field. The results confirm that the expertise and practice in their field are important in distinguishing those individuals who are involved in the creation of new ideas from those individuals who are not. Standardized structural weight in this case is 0,454.

Based on the results we can fully confirm our fourth hypothesis *H4: For the creation of new ideas the cognitive competencies are necessary*. Cognitive competencies are those that allow individuals to see problems and search for new ideas and solutions and appropriately uses thinking. Among the cognitive competencies we included 'the willingness to »mull over« their own ideas and the ideas of others' and the competence of 'analytical thinking'. The results of the analysis of these two competencies rank high among the competencies of individuals involved in innovation process. In the third place we have the competency of analytical thinking with the structural weight of 0,592. In the fourth place we have the competency of readiness of »mulling over« their own ideas and the ideas of others with the structural weight of 0,526.

*H5 is as follows: When designing new ideas, social competencies are necessary*. The results of our study showed that the second most important competency in distinguishing individuals based on their involvement in the creation of new ideas is 'the ability of presenting products, ideas and reports to others'. Structural weight of this competence is quite high, 0,689. This shows how important the presentation of other ideas is for further development of innovation. The idea that comes from an individual to the group, from the group to the entire organization requires appropriate representation and interpretation of the new idea (McKenzie and van Winkelen, 2004). When the individual emerges with a new idea, the next stage is the presentation of this idea to others. The idea is then to be discussed and improved. The idea needs to be presented to a wider audience (group, department, leadership) so the presenting individual tries to gain support for the actual implementation of the idea (McKenzie and van Winkelen, 2004, 25; Nonaka and Takeuchi, 1995). Nonaka and Takeuchi talk about the 5-stage model of knowledge-creating process in the organization.

In order for the idea to actually lead to the transformation of ideas into an innovation it is not enough just for the individual to introduce the idea to others, they must motivate others for further development, successfully organize activities that are necessary to transform ideas into the final innovation but at the same time achieve a consensus on the idea and its transformation into an innovation. This is confirmed by our results, which show that the following social competencies are especially important:

The ability to co-ordinate activities, which represents "the ability of coordinating work in projects, directing the activities of individuals from different organizational units or group activities to achieve interrelated goals" (Nonaka and Takeuchi, 1995; McKenzie and van Winkelen, 2004; Majcen 2009, 72).

The ability to motivate people. It means that “a person is capable of inspiring people to changes, has an impact on others, knows how to encourage their confidence, knows how to convince them that changes are necessary and that they are able to accept and implement them. The individual emulates energy and momentum” (Nonaka and Takeuchi, 1995; McKenzie and van Winkelen, 2004; Majcen 2009, 67).

The results of our analysis thus confirm the existence of certain competencies that have a significant impact on the creation of new ideas in an individual. Among them the particularly relevant are the action, work, cognitive and social competencies.

## **Conclusion**

Our study however has some limitations. In particular, the self-evaluation method and evaluation of development of one's own competencies can be problematic regarding the overestimation of the achieved level of the development of competencies. Another limitation is the fact that the work competencies are measured with only one indicator. Both of these limitations are exceeded by the large enough sample of our analysis.

In our analysis, we find that the respondents largely coincide with the concept of the individual innovative behaviour at work, which was presented in detail in the theoretical part. The studies that have been conducted in this area (Scott and Bruce, 1994; Yuan and Woodman, 2010; Montani et al., 2012; Martinez-Sanchez et al., 2008) have shown that an individual's innovative behaviour at work is particularly positively impacted by: the support from the organization, superiors and co-workers, type of work which the individual performs and the way of thinking.

The support and the promotion of innovative behaviour by the organization, superiors and colleagues are particularly important from the perspective that it offers the individual psychological safety. This demands the use of social competencies which trigger the acceptance and support of social environment (superior, co-workers and organization). As was demonstrated by our study, these are very important in the development of innovation. Our contribution is of course the most important in identifying the role that the social competencies have at this stage. We found that among other competencies, the following social competencies are of high importance: 'the ability of presenting products, ideas or reports to others', 'the ability to co-ordinate others', 'the ability to effectively negotiate' and 'the ability to motivate others'. For an effective innovation process, the individual needs minimal abilities to communicate, abilities to organize, and abilities to govern the

political process of negotiation. All of these skills are necessary for a successful social functioning and for interventions in the social environment in which innovators may pose intractable obstacles to exercise their innovative ideas and solutions.

Our analysis also has very practical consequences for human resource policy (selection) and programs (training). It points at certain sets of competencies, which should be developed for employees in order to facilitate IWB among the employees and thus increase the innovative capacity of the organization. If the organization includes individuals that already possess the appropriate competencies in the innovation process, and reinforcing these competencies in individuals who are involved in these activities, the organization can in this way improve its innovativeness, increase its competitiveness and thus better tackle the challenges of our time.

## **Resources**

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