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INNOVATIVE LITERACY LEVELS: GENDER, AGE AND EDUCATION MATTERS

Abstract. *This paper presents the arguments and counterarguments within the scientific discussion on the issue of an innovation activity, which is very important for entrepreneurship and is considered a significant competitive advantage. However, there are factors such as education, age and gender that can influence innovation creation. The main purpose of the research is finding out how innovation creation is related to the gender, age and education of entrepreneurs in common entrepreneurship and social entrepreneurship. The systematic literature review has shown that innovative activity is supported by entrepreneurial competencies. The relevance of the decision of this scientific problem is that they are few studies focusing on that problem. Investigation of the topic of innovative activity in the paper is carried out in the following logical sequence: (1) literature review concerning on innovative activity, typology and modern trends in innovations (2) possibilities of competencies needed for innovations, (3) case study background, based on literature review and previous studies (4) presentation of key results concerning gender, which was found to have no significance regarding entrepreneurship. Methodological tools of the research methods were sociological survey, data analysis. As a result of the calculations, the main issues of innovative activities were detected. The main results were analysed using Cluster analysis and tests of statistical significance. The paper presents the results of an empirical analysis that shows the main gaps in the innovation classification when pure and combined innovation types are presented. The research empirically confirms and theoretically proves the necessity of doing the following steps: inform and educate entrepreneurs in the area of innovation, not only to support innovative activities financially. The findings have practical significance and the results of the research can be useful for public supporters and educational organizations how to work with entrepreneurs with innovative ideas.*

Keywords: competencies, determinants of innovations, innovations, literacy.

Introduction. Defined in a varied manner depending on the focus, literacy represents an inherent part of a well-functioning business, whether it concerns entrepreneurship in a social or different enterprise Fasnerova (2018) claims that functional literacy means skills a person is furnished with for the implementation of various activities required by modern-day civilization, especially in terms of managers' literacy in innovation. This area is focused on innovations, managers and their competences and the ability to create these innovations is still relatively scarcely researched. Their works describe and divide innovation into general or innovative activities in enterprises (Rogers, 1998; Freeman, 1974; Porter, 1990; Grossi, 1990). All these areas of interest are fascinating and may reveal the behaviour and attitude of managers to the internal environment of the enterprise. Previous research had shown the profile of a typical manager. In this research the secondary data was insufficient and therefore it was necessary to conduct primary research. The main goal of the paper is to explain how the gender, age and education of entrepreneurs are related to the creation of innovations, especially in the social field. The research data from 128 interviews will be used to explain that research problem in the form of a case study. Given the objective set, the following research question was formulated: «Is every modern entrepreneur innovative in some way?».

Literature Review. In the past innovation was needed whenever the market was saturated because it was a means of creating a competitive advantage (Veber, 2016). Innovations were mostly observed in the 1930s by Schumpeter with him using the term «new innovations» (Dvorak, 2006). Schumpeter divided these «new innovations» into five groups. These were the creation of new products, the introduction of new products, the acquisition of new raw materials or semi-finished products, the penetration of new markets and the management of a new organization (Dvorak, 2016).

Innovation has been defined in different ways. For example, Freeman (1974) argued that innovation can provide a new look for a product already on the market. In the 1990s, innovation was defined as a means of increasing the value and benefit of something new (Drucker, 1993). Subsequently, the Oslo Manual (2005) divides innovations into technical and non-technical. Each of these innovations is defined separately. Non-technical innovation is mainly an organizational and business innovation. Technical innovations are product and technological innovations that are aimed at introducing new products and technologies or technical improvements to the products and technologies already used. However, today we know different kinds of innovations and their definitions. These can be the product, process, business, technological, design-based, service, responsible or social innovation (Edwards-Schachter, 2018). Lundvall (2016) defines technological innovation as the input of investment into research and development, ending with the output of new products and processes to support quality (Popescu, 2017). Product innovation can be considered as an interaction between an innovated product and a production process and a production process that makes a product available to a potential user (Gault, 2018). Process innovation can be defined as a change in methodology or process leading to lower costs, higher productivity or faster processing (Kahn, 2018, Popescu, 2017). Today, according to Manzini (2014), the concept of design-based innovation is mainly associated with social responsibility in social innovation and social needs. Business innovations are a special form of innovation and are often seen as complementary to generally recognized innovations (Massa and Tucci, 2013). Service innovations are often linked to strategy, are less technological, and nowadays are often associated with social innovation and sometimes with technological innovation (Edwards-Schachter and Wallace, 2017; Goldstein et al., 2002). Responsible innovation can be defined as a transparent and interactive process that takes place regarding the sustainability, social suitability and acceptability of the innovation process and its products (Von Schomberg, 2013). Nowadays it is also associated with the fourth industrial revolution (Owen et al., 2013). Social innovation is basically defined as an understanding that there is a link between sustainability, environmental and economic aspects (Baker and Mehmood 2015). Even today, social innovation is faced with the problem of non-existent, uniformly recognized definitions. To individuals for whom the concept of social innovation is relatively new, the following definition is appropriate: «Social innovation refers to innovative activities and services that are motivated by the goal of meeting a social need and that are predominantly developed and spread through organizations whose primary purposes are social» (Mulgan, 2006). Social innovation exists to provide social services to society. It also contributes to economic development, social development and social prosperity (Lee et. al., 2012; Sebestova and Palova, 2016). However, there are many perspectives regarding social innovation. In general, the definitions of social innovation relate to behaviour and process, they are also often influenced by the author's initiative and refer to a tangible result based on competencies. (Mair and Marti, 2006).

Literacy and Competencies of Managers Dobrovska (2001) state that functional literacy does not cover solely the ability to write, read and calculate, but also the ability to actively participate in the world of information. Classified as one of the types of literacy, functional literacy can be understood in a variety of ways. In addition, applying a different point of view, functional literacy may be divided into three parts, specifically, into functional literacy, documentary and numerical literacy. Moreover, functional literacy does not include only mastery of one's own native tongue, but also of a foreign language (Pavelkova et al., 2012). According to Pavelkova et al. (2012), functional literacy also encompasses information literacy. This type of literacy is described as mastering work with information including information and communication technologies. However, information literacy may represent a separate type of literacy. In this case, information literacy is closely linked to education and similarly, as functional literacy, it can be divided into literary, documentary and numerical literacy, while being extended with language and computer literacy (Dobrovska et al., 2004). Corporate competencies represent the ability of an enterprise to use its resources, usually in combination with organizational processes for the desired purpose. They

are generally based on the creation, sharing and exchange of information between people. Enterprise resources are the foundation of enterprise competencies, competencies are a major component of competitive advantage (Fiske et al., 2018; Goleman, 2000). Unlike those competencies in strategic business management, we define individual competencies that are influenced by the motivation and performance of their bearer. A set of individual competencies in the company (competencies of individual members, employees) creates a strategic company resource, i.e. intellectual capital, which consists of two components (Belz and Siegrist, 2001): human capital (individual skills and knowledge acquired through education, training, experience and observation (Goleman et al, 2013); knowledge capital (documented knowledge available in various forms: scholarly papers, reports, books, software patents, etc. (Senge, 2005). Key competencies are a combination of complementary skills and knowledge of a group or team of workers, resulting in the ability to perform one or more critical processes at the highest possible level (Brassard, 1992, Dobni et al, 2001). This is the basis for the creation of competency models, which are important for entrepreneurship itself in various fields. The interest in exploring the qualifications of workers for the performance of their profession through the examination of competencies is not new. The first mention of it can be found in McClelland or Boyatzis work in the early 70s of the 20th century, who emphasized that good performance and success in a profession, requires not only intelligence but other skills that can suitably complement the whole and motivate toward better performance while improving the «output» (Kocianova, 2010). Creation of Competency Models. According to Hronik (2006) «competence is defined as a cluster of knowledge, skills and experience that supports the achievement of the goal». This complexity manifests itself in the behaviour and actions of the individual in any organization. Therefore, competency models are used to link service standard requirements as the connecting elements for integration, work for the benefit of the organization”, which is consistently applied across all business sectors, especially the service sector (Cheng, et al, 2005, Jansen, 2008). Kubes et al. (2004) add that such a person can then work in any position because his behaviour can be anticipated. By contrast, (Tureckiova 2004, Nescakova, 2009) state that we can look at the problem from two perspectives and use two models:

- American model – personality characteristics of the profession, i.e. «soft» skills focused on behaviour, the behaviour of the person concerned (intrapersonal, interpersonal, leadership competence (McKee & Massimilian, 2006, McKee et al., 2012).

- The British model – functional skills – «hard» skills, focusing on the area of knowledge (e.g. cognitive competence, technical competence (Lapina et al., 2015).

In the area of health and social care, the COPA (Competency Outcomes and Performance Assessment) model developed by Lenburg (2009) and her team between 1990 and 1999 is very often mentioned and has already affected the development of training courses for healthcare workers and their activities. (Sebestova, 2010, Pillay & Morris 2016). It is quite simple and should provide answers to the following basic questions:

1. What are the basic competencies and outcomes needed for today's practice?
2. What are the available benchmarks for defining these necessary competencies?
3. What are the most effective ways to learn or expand new competencies?
4. What are the most effective ways for students or others to retain their competencies in practice?

This is the basis of the study, which aims to explain how typical respondents determined based on gender, age and education create innovation.

Methodology and research methods. A case study was performed to obtain primary data. Research has provided data on entrepreneurs' overall knowledge of innovation and social innovation and their ability to measure it. Furthermore, data on the creation of innovations in the surveyed enterprises were obtained from the manager's perspective. Basic data on managers were also obtained. These were gender, age, education and business experience. The case study precedes complete field research conducted in the

form of a questionnaire. However, the main objective of the research was to identify the innovation activities of managers, their ability to describe and divide social innovation and the division of their innovation activity into six types of innovation. This approach was already defined in the study Krejci and Sebestova (2019). To support the research question, two hypotheses were developed and will be evaluated in the key findings of this case study:

- Hypothesis One: There is a verifiable relationship between the age of the manager and innovative proactivity as a whole.
- Hypothesis Two: There is a verifiable relationship between the manager's education and product-oriented innovation.

Data was collected from the second half of 2018 to March 2019 by a combination of an online form and a personal interview of the team members. A total of 128 respondents had replied to the questionnaire as of March 28, 2019. Data was collected using a semi-structured interview. The interviews were conducted face-to-face or by telephone. 66% of semi-structured interviews were conducted face-to-face and 34% of semi-structured interviews were conducted by telephone. A total of 206 entrepreneurs were addressed and 128 entrepreneurs attended the interviews. Overall, the interviews lasted approximately 75 hours and 30 minutes. 78.5% of answers to questions about numbers (innovation, descriptive variables) were obtained directly from entrepreneurs and 21.5 % of responses were taken directly from the enterprise records. Of all the companies in the Czech Republic we were only interested in companies meeting the following conditions (quota selection by region):

1. Only Sole proprietor and Limited Liability Companies (Joint Stock Companies have a large turnover and a large share of GDP, but we are interested in the number of opinions).
2. Turnover min CZK 1 (to eliminate inactive enterprises).
3. The maximum number of employees being 249. This is because managers are employed in large enterprises and therefore have no experience in setting up an enterprise.
4. It was necessary to randomly select enterprises meeting the above requirements from each region (the number of enterprises selected in each region is indicated in the last column). A total of 1,136 enterprises were selected and are shown in Table 1.

Table 1. Number of Enterprises in the Czech Republic by Region

Region (NUTS II)	The percentage from the Czech Republic	Number of enterprises	Number of enterprises in the sample
Prague Rg.	9.1	239.725	240
Central Bohemia Rg.	5.45	143.687	144
South Bohemia Rg.	2.52	66.351	66
Plzen Rg.	2.1	55.307	55
Karlovy Vary Rg.	1	26.283	26
Usti n. L. Rg.	2.37	62.524	63
Liberec Rg.	1.67	43.976	44
Hradec Kralove Rg.	2.18	57.316	57
Pardubice Rg.	1.88	49.481	49
Vysocina Rg.	1.82	47.845	48
South Moravia Rg.	4.94	130.248	130
Olomouc Rg.	2.11	55.539	56
Zlin Rg.	2.23	58.816	59
Moravian-Silesian Rg.	3.75	98742	99
Total	43.12	1 135 840	1.136

Sources: Ministry of Industry and Trade (2018).

In order to approach the sample of the interviewed group, the questionnaire included a survey of demographic and social profiles of entrepreneurs. Based on individual characteristics, it was further investigated how the responses to the competency questions contribute, and the answers were then analysed in two dimensions. A characteristic was selected that had the greatest impact on changing responses to competency-oriented questions. The data that was obtained from the interviews were generally evaluated based on keywords. The importance of the qualities that people need to start-up or the source of motivation for each respondent has been classified in the order they were named. The order was divided into the groups below: the first group = strongly agrees; the second group = mostly agrees; negative sentiment was seen in answers when the respondent said: «I don't think that... or I am not sure about...». The data was rewritten to a Likert scale of 1 to 5, where 1 means strongly agree and 5 means strongly disagree. The data were evaluated in terms of sentiment, either predominantly positive or predominantly negative. This part covered their motivation to behave socially, how they support their behaviour by social innovations. Identification data of individual managers were evaluated based on the inclusion of the data obtained in predetermined groups. Gender was divided into a group of men and a group of women. Age was divided into five groups. The first group was 18-25 years old; the second group was 26-40 years old; the third group was 41-55 years old, the fourth group was 56-65 years old and the fifth group was 65 years old and over. Education was also divided into three groups. The first group represented Vocational School education. The second group represented High (Secondary) School education and the third group represented University education. In addition, identification data (gender, age and education) were recorded in an individual scale number within the main label. They were therefore grouped, for example, by type of school or by type of gender. Social innovations have been classified as pure and combined. Social innovations have been divided into pure and combined innovations because pure innovations were not enough to classify innovation activities in Czech social enterprises. The division of innovations into these two groups was based on previous secondary research (Krejci and Sebestova, 2018). The distribution of innovations can be seen in Table 2 below. The innovative activity has been re-coded for the purpose of a case study to get a label. This label shows the importance of innovation activity. An example is a phrase «I am mostly doing that = 1» or «I am quite sure ... = 2». In this way, pure innovations were divided into semi-structured interviews:

1. Employee-focused innovations are innovations that improve the lives of employees in the social enterprise.
2. Product-oriented innovations relate to improving the quality of products or services produced by the social enterprise.
3. Corporate innovation means innovation linked to improving the environment in the social enterprise and around the social enterprise.

Table 2. Typology of Social Innovations

Pure innovation	Example	Combined innovation	Example
Employee-focused innovations	Innovations fully supporting the facilitation of work for disadvantaged employees	Product and employee-oriented innovation	Technology that partially improves the efficiency of production and partially relieves the work of disadvantaged employees
Product-oriented innovations	The purchase of new technology	Employee and enterprise wide-oriented innovation	The reconstruction of changing rooms or sanitary facilities
Enterprise-wide innovation	Repairing the roof or refurbishing the exterior of the enterprise	Product and enterprise wide-oriented innovation	New machine shop

Sources: Krejci and Sebestova, 2018.

Combined social innovation is an innovation that always combines two areas of pure innovation. They are so divided because the social enterprise cannot divide them into separate parts of pure innovation. This innovation has a social impact on both areas of combined innovation. For the case study, the combined innovations were divided and defined as follows:

1. Product and employee innovation mean innovation that partially improves the social life of employees and partially improves social enterprise production.
2. Employee and enterprise-wide innovation mean a way to partially innovate the social enterprise environment and to partially innovate the life of employees in the social enterprise.
3. Product and business innovation are an innovation that partially improves the social environment and partially improves production.

Data Sample Description. The sample in the case study contains 73.44% men and 26.56% women. Respondents are divided into four age groups. These are the age groups of 18-40 years, 41-55 years, 56-65 years and 65 years and over. The least numerous groups are made up of managers aged 65 and over. By contrast, the largest group is made up of managers aged 41-55 years. These data can be seen below in Figure 1.

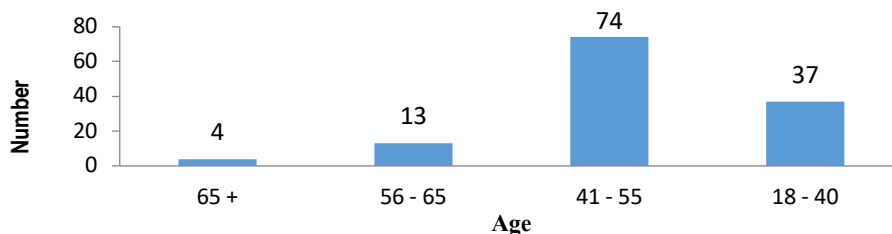


Figure 1. Manager Identification – Age

Source: own data.

Respondents also provided information regarding their education. During the interviews, the respondents divided themselves into three educational groups. These were managers with a university education, with vocational education and with high (secondary) school education. It was found that 63.28% of managers had high (secondary) school education. The second-largest group at 32.03% was made up of managers with university education and the smallest group with 4.69% was made up of managers with vocational education. These data are shown in Figure 2 below.

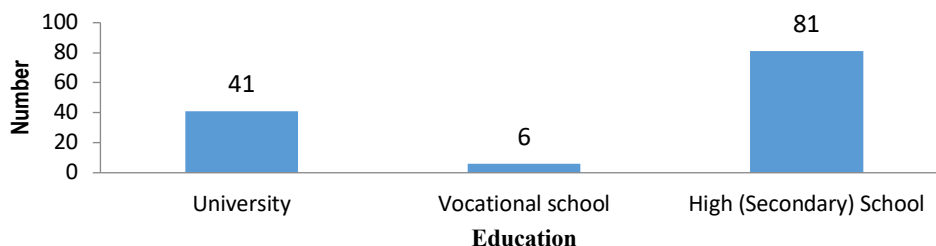


Figure 2. Manager Identification – Education

Source: own data.

Results. The total number of respondents obtained for the case study was 128. Response rates were obtained from various management positions in the Czech Republic for the evaluation of innovation

activities. The evaluation was performed in four logical steps. First, basic data on gender, age and education were described. Subsequently, these three aspects were identified with pure and combined innovations. Subsequently, an ANOVA was conducted along with the F-test, which highlighted the importance of individual aspects related to the manager (for example gender, age, education) or entrepreneurship (for example product-oriented or employee-oriented innovation). The F-test pointed out whether this aspect influenced the profile of a typical respondent. The last step was to create several types of respondents based on age, education and gender. Socially Innovative Activity Determinants. A typical respondent (represented by the role of a manager in this study) can be determined by many factors. It may involve experience, age, practical experience, the ability to classify innovations or the ability to identify innovations. In this case study, three variables (age, education and gender) were selected to create the three most common types of respondents. Each of the three typical respondents has its own profile, which is most commonly based on the variable selected. The profile of a typical respondent shows gender, education, age, business experience, innovation and, whether it is innovative and, where appropriate if he created innovations and to what extent. Table 3 below shows three profiles of typical age-based respondents.

Table 3. Clusters by Age

	Cluster – by age					
	Non – innovative		Innovative 1		Innovative 2	
Gender	1	Male	1	Male	1	Male
Education	3	High (Secondary) School	3	High (Secondary) School	1	University
Business experience	2	11-20	2	11-20	2	11-20
Innovative proactivity as a whole	3	No	1	Yes	1	Yes
Employee oriented innovations	5	0%	4	20%	4	20%
Product-oriented innovations	5	0%	2	60%	4	20%
Enterprises innovations	5	0%	4	20%	4	20%
Employee and product-oriented innovations	5	0%	5	0%	4	20%
Product and enterprises-oriented innovations	5	0%	4	20%	4	20%
Employee and enterprises innovations	5	0%	5	0%	5	0%

Sources: own data.

The first typical respondent is non-innovative, with high (secondary) school education and has 11 to 20 years of business experience. The second typical respondent is innovative and does not differ from a non-innovative respondent in gender, education or business practices. In terms of innovation, he is in the top 60 per cent of the most productive for product-oriented innovations. On the contrary, the respondent does not constitute combined employee and product-oriented innovations and employee and enterprise-oriented innovations at all. The rest of the innovation is at the same proportion, namely 20 per cent. The third typical respondent is innovative, has a university education and 11 to 20 years of business experience. The only area of innovation that he does not create is combined employee and product-oriented innovations. All other innovations, both pure and the other two combined innovations, account for 20%. All three typical age-based respondents are male. Furthermore, the test result showed that the age of the manager has no verifiable relationship to innovative proactivity in the entrepreneur. Cramer V coef. was used to evaluate statistical significance, sig. = 0.05. The test result showed that the value is 0.182 and Approx. sig. is 0.399. With respect to the results, Hypothesis One is rejected.

Table 4 above shows three typical respondents created based on education. In this case, all three typical respondents are male, have 11 to 20 years of business experience and are between 41 and 55 years of age.

Table 4. Clusters by Education

	Cluster – by education					
	Non – innovative		Innovative 1		Innovative 2	
Gender	1	Male	1	Male	1	Male
Business experience	2	11-20	2	11-20	2	11-20
Age	3	41-55	3	41-55	3	41-55
Innovative proactivity as a whole	3	No	1	Yes	1	Yes
Employee oriented innovations	5	0%	4	20%	4	20%
Product-oriented innovations	5	0%	2	60%	4	20%
Enterprises innovations	5	0%	4	20%	4	20%
Employee and product-oriented innovations	5	0%	5	0%	4	20%
Product and enterprises-oriented innovations	5	0%	5	0%	4	20%
Employee and enterprises innovations	5	0%	5	0%	5	0%

Sources: own data.

The first typical respondent differs from the other two by his non-innovative approach to entrepreneurship. The second typical respondent is innovative but focuses only on creating pure innovation. Regarding pure innovations, they are most productive in product-oriented innovation. The third typical respondent is innovative and creates both pure and combined innovations. The only innovation that is not created is a combined employee and product-oriented innovations. Other innovations account for 20%. The test result also showed that the education of a manager has no verifiable relationship to the creation of product-oriented innovation. Again, Cramer V coef. was used to evaluate statistical significance, sig. = 0.05. The test result showed that the value is 0.182 and Approx. sig. is 0.393. With respect to the results, Hypothesis Two is also rejected. Table 5 below shows the result of the F-test, which confirmed that gender is not important in the formation of a typical respondent. Because of this, no typical gender-based respondent could be created.

Table 5. ANOVA Table for Gender

ANOVA – by education	F	Sig.
Gender	0.988	0.417
ANOVA – by age	F	Sig.
Gender	0.462	0.764

Sources: own data.

An interesting finding was the fact that all typical respondents are male and none of them shows combined employee and product-oriented innovations. All typical respondents have business experience between 11 and 20 years. Basically, there are the same typical respondents who are innovative respondent 2 based on age and innovative respondent 2 based on education. Limitation of the Study. After evaluating the interviews with managers, it was found that they were not sure how to define and classify innovations. The interviews have also shown that managers are not sure about the definition of social impact. They also do not have a deeper ability to focus on innovation or how to create a specific type of innovation in the future. The research results are also influenced by the small research sample that does not have a complete information value given the number of small and medium-sized enterprises in

the market. Only 128 respondents were discussed for research purposes. However, this research only precedes further research in this area. In the area of manager age, research was limited by large differences in the number of respondents in each predetermined age group. Another limitation was getting secondary sources in the area of managerial literacy, managerial age structure, and managerial education structure in the Czech Republic. No field studies, public data or statistics were available (Kocianova, 2010, Kubes et al., 2004, Krejci and Sebestova, 2018). This sample has shown that social innovation can be strongly influenced by the level of education. It is assumed that education will not support the level of innovation activity, particularly in the combined form. Age can promote pure innovation. Gender has not shown a specific connection to any of the innovations.

Conclusions. The case study showed that four out of six typical respondents are innovative in at least one type of innovation. Two typical respondents are non-innovative. It can be argued that not all respondents (entrepreneurs) are innovative. This statement answers the research question. In connection with the research question in this case study, both suggested hypotheses were rejected. Three innovative respondents have innovative activity in both pure and combined innovation. Innovative Respondent 1 based on education is innovative only in the field of pure innovation. Innovative respondents have also proved to be the most productive in product-oriented innovation. None of the typical respondents can be identified by gender. Gender has no influence on the profile of a typical respondent. However, all typical respondents were male. All respondents have the same length of business experience and, in most cases, have high (secondary) school education. In general, most managers are unable to describe and divide innovation, which was supported by the literature review (Baker and Mehmood, 2015, Edwards-Schachter, 2018). Managers are also unable to explain the essence of social innovation and identify this social innovation in their entrepreneurship. Given this situation, it is not possible to claim that any manager in the research sample was social or created social innovation (Krejci, and Sebestova, 2018, 2019). The case study was also to reveal the literacy of managers in the field of innovation activity. Due to the poor literacy of managers in the field of innovation future research into the innovative activities of managers and their enterprises will need to be adapted to the literacy of managers in this area (Fiske et. al, 2018, Cheng et al., 2005, Gault 2018, Kahn, 2018). Future research should also provide more detailed results since such research will include a larger research sample, which should have an appropriate informative value in a line with previous works (Jansen, 2008, Kocianova, 2010).

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Інноваційна грамотність: гендерні, вікові та освітні фактори

У статті представлено аргументи та контраргументи в рамках наукової дискусії стосовно інноваційної діяльності, що є ключовим фактором конкурентоспроможності підприємства. Авторами визначено, що на ефективність створення інноваційної впливають такі фактори, як: рівень освіти, вік і стать. Основна мета статті полягає у дослідженні процесу створення інновацій з урахуванням гендерного та вікового факторів, а також рівня обізнаності підприємців у особливостях інноваційного та соціального підприємництва. Результати систематизації наукових досліджень засвідчили, що висока ефективність інноваційної діяльності не можлива без наявності підприємницьких навичок. У статті аналіз специфіки інноваційної діяльності здійснено у такій логічній послідовності: (1) огляд літератури щодо інноваційної діяльності, типології та сучасних тенденцій інновацій; (2) аналіз навичок, які необхідні для створення та впровадження інновацій; (3) вивчення проблеми на основі аналізу попередніх досліджень; (4) представлення ключових результатів, які було виявлено. Методологічними інструментами дослідження – соціологічне опитування та аналіз даних. У результаті розрахунків виявлено ключові проблеми активізації інноваційної діяльності. Основні результати були отримані з використанням методів кластерного аналізу та тестів на перевірку статистичної значущості. Результати дослідження свідчать про наявність низки недоліків у класифікації інновацій. Крім цього, дослідження емпірично підтверджує теоретично обґрунтоване, що для активізації інноваційної діяльності необхідна не лише фінансова підтримка, а й систематичне інформування та навчання підприємців щодо особливостей впровадження інновацій. Авторами наголошено, що отримані результати мають практичне значення та можуть бути корисними для громадських діячів та освітніх організацій, у контексті формування програми навчальних тренінгів для підприємців.

Ключові слова: компетентності, детермінанти інновацій, нововведення, грамотність.

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