



IDENTIFICATION OF CREATIVE AND INNOVATIVE COMPANIES

Ivo FORMÁNEK¹, Vladimír KRAJČÍK²

¹University of Entrepreneurship and Law, Department of Entrepreneurship and Management,
Vltavská 585/14, 150 00 Prague 5, Czech Republic

²University of Entrepreneurship and Law, Department of Applied Informatics,
Vltavská 585/14, 150 00 Prague 5, Czech Republic

E-mails: ¹ivo.formanek@vspp.cz (corresponding author); ²vladimir.krajcik@vspp.cz

Received 09 April 2017; accepted 16 June 2017

University of Entrepreneurship and Law in Czech Republic has long time been dedicated to the research which relate to the identification of creative and innovative companies. These companies are characterized by a creative and innovative approach to their own companies and their products. The paper presents among others authors' experience which they have come within the research project of "Model of Creative and Innovative Organizations and Its Verification in Conditions of the Moravian-Silesian Region". An integral part of the research project was also a questionnaire for data collection and an analytical tool for the data analysis. This project was realized in 2014 and it followed up the several earlier research works concerning the identification of creative and also innovative companies in the Moravian-Silesian Region. Currently, the authors have been still improving the methods of identification of creative and innovative companies. The paper submits some of our practical experience.

Keywords: creative and innovative companies, entrepreneurship, innovation, invention processes, inventiveness.

Introduction

Within the research work of "Model of Creative and Innovative Organizations and Its Verification in Conditions of the Moravian-Silesian Region" which was solved at the University of Entrepreneurship and Law (UEL), the first there was generated a questionnaire for data collection and an analytical tool for the data analysis. The chapter "Methodology" explains the methodology. The chapter "Questionnaire" includes the basic information about the issues in the questionnaire. In addition to the questionnaire as a part of the research, we created a model of creative and innovative companies, which would be the appropriate way to display and indicate the degree of creativity and innovation of the researched companies. The model is given in the chapter "Principles for work with the module" of this paper. Examples of assessment of creativity and innovativeness can be found in the chapter "Examples of assessment of creativity and innovativeness of the firms".

Methodology

The main requirement that we placed on the identification and the model of creative and innovative companies was the reliability and transparency. As the scientific method was chosen a mixed research design, which combines quantitative data collection with the subsequent qualitative evaluation and content analysis. As the basis of the research there was formed the questionnaire to identify creative and innovative companies, which for the identification of Entrepreneurial Performance Index (EPI) indicators was created by Michael H. Morris (Morris *et al.* 2011).

The EPI indicator measures the frequency and intensity of entrepreneurship (innovation rate, proactivity and risk-taking) in companies. In addition, it also focuses on the upgrading of products-services and products. Based on our practical experience (Formánek, Krajčík 2015) and extensive study of the issues of innovation, creativity and entrepreneurship (Bygrave, Zacharakis 2010; Clydesdale 2010; Dacey, Lennon 1998; Dahmén 2008; Davidsson *et al.* 2006; Goldenberg, Mazursky 2008; Gundry, Kickul 2007; Higgins 2006; Kirby 2002; Košturiak, Chal' 2008; Legge, Hindle 2004; Morris *et al.* 2011; Rogers 2003; Runco 2007; Shavinina 2003; Tidd, Bessant 2009; Trott 2008) there have been the EPI indicators substantially expanded for our needs.

Innovation is understood here mainly as a function of creativity, idea, opportunity, courage, determination, and innovation implementation. At the same time, creativity is perceived as a skill, while innovation is understood to be a process that starts with the idea (vision), followed by different stages of development, and ends with the actual realization of innovations. More about the relationship between creativity and innovation can be found in specialized literature (Dacey, Lennon 1998; Dahmén 2008; Goldenberg, Mazursky 2008; Higgins 2006; Košturiak, Chal' 2008; Morris *et al.* 2011; Shavinina 2003; Tidd, Bessant 2009; Trott 2008).

With regard to the questionnaire survey, we decided for the structured and assisted interviews. The main reason was the fact that although professional public widely accept the issue of creativity and innovation, not everyone sees it the same way. Therefore, we assumed that if we choose only to quantitative research (bulk distributing of questionnaires to companies), it would be a big risk here that the issue of innovation and creativity will not be correctly understood by the respondents and the answers then will not reflect the actual situation. This assumption was fully confirmed during the structured interviews. Almost always we had to discuss at the beginning of the interviews with respondents first to clarify what actually is creativity of companies as well as where start and finish the innovation of products, services, processes, and organization.

Questionnaire

The main know-how of our work is hidden in respective questions of the questionnaire (see below). The questionnaire was divided into five dimensions, which primarily consists the following sections of questions.

Dimension 1: Orientation or company specialization

The questions in this dimension examined the following facts (Dacey, Lennon 1998; Morris *et al.* 2011; Rogers 2003; Shavinina 2003; Tidd, Bessant 2009; Trott 2008):

- The share of the introduction of new products and services (including new features) in comparison with the competition;
- Emphasis on application of methods of continuous improvement in production, administration and services;
- Taking the risk of top managers in the search and use of risk growth opportunities;
- The application of the philosophy of “live and let live” in relation to the competition;
- The use of creative techniques in the search for new and unusual solutions to problems;
- Top management philosophy emphasizing the best products and services, and avoiding high costs in the development of a new product;
- The existence of a charismatic leader in the management of the company;
- Cautious, pragmatic, gradual adaptation of problems;
- Active search of big opportunities;
- Rapid growth as the dominant goal. Important and courageous decisions, despite the uncertain results;
- Compromises between conflicting requirements of management, owners, customers, employees, suppliers, etc.;
- Stability and continuous, gradual and slow growth as the main intention.

Dimension 2 (or Dimension 3):

The introduction of new products (or the introduction of new services)

The questions in these dimensions examined the following facts: the number of substantial new processes or methods introduced in the past two years (Morris *et al.* 2011; Rogers 2003; Shavinina 2003; Tidd, Bessant 2009; Trott 2008):

- How many major improvements in the products (or services) or their substantial modifications has the company introduced in the last two years?;
- What is the number of newly introduced products (or services) in the company compared with the competition?;
- What extent are the new introduced products (or services) are completely new products?;
- Do the newly introduced products (or services) increase greatly value for the customer and for the company?;
- Do the newly introduced products (or services) intensify the quality of life of the customer?;
- Do the newly introduced products (or services) improve environment?;
- Do the newly introduced products (or services) provide in addition to measurable values and emotions?;

- Do the newly introduced products (or services) solve problems, dreams, aspirations and goals of the customer?;
- Do the newly introduced products (or services) remove a contradiction, conflict or contradiction, the paradigm which has not yet been resolved?;
- Do the newly introduced products (or services) represent a solution from other disciplines?;
- Do the newly introduced products (or services) constitute the results of research and development?;
- Do the newly introduced products (or services) represent an analogy from nature (bionics)?;
- Do the newly introduced products (or services) personate the technical trends of evolution?;
- Do the newly introduced products (or services) follow the current social trends and lifestyle?;
- Do the newly introduced products (or services) represent any new trends on the market?.

Dimension 4: The introduction of new processes

The questions in this dimension explored the following facts: the numbers of substantial new processes or methods have been introduced in the past two years. Whether the new processes introduced in the last two years represent (Morris *et al.* 2011; Rogers 2003; Shavinina 2003; Tidd, Bessant 2009; Trott 2008):

- The result or the implication of the research, or experimental development, adaptation, protection and commercialization of new products, production processes and organizational forms?;
- The result or the implication of economic innovation, which allows the development of business activities and adapting to social changes and trends?;
- Environmental innovation, which allows the development of business activities and adapting to social changes and trends?.

Dimension 5: The key dimensions of company behaviour

The questions in this dimension examined the following facts (Morris *et al.* 2011; Rogers 2003; Shavinina 2003; Tidd, Bessant 2009; Trott 2008):

- What is the current strategic orientation of the company given by?;
- Which resources does the company hold in?;
- Is for the company characterized an effort to quickly seize the opportunity, exploit it, earn it and move to the next opportunity?;
- What is the access of the company when investing resources to new opportunities?;
- How does the company work with rentals, rents the use of outsourcing and contracting resources?;
- What is the organizational structure of the company management?;
- What is the reward system in the company?.

The research was focused on the formulation and testing of the validity of scientific hypotheses. The hypothesis was the claim that truly creative and innovative company should indicate the maximum scoring of dimensions 2–4 of the created questionnaire. Data for the research was the respondents’ answers recorded in the questionnaires.

As the respondents, there were selected representatives of top and middle management, where we could assume that they know the companies quite well. In the interest of objectivity then there were present, when filling in the questionnaires, the staff of the UEL, who in case of doubt, some questions explained to the respondents.

Basic research in theory was represented by all selected companies in the Moravian-Silesian Region. The sample consisted of 32 selected firms. This low number of selected companies was given with the limited resources that were available for research. However, the results confirmed that, even with such a low number of companies we have reached a good validity of identification.

All the obtained questionnaires were processed by using the tool, which was implemented in Microsoft Excel. The outputs of the tools then were represented by radar charts (spider charts) that work with the above mentioned five dimensions.

Principles for work with the module

Figures 1–2 present some examples or cases of radar charts – graphic outputs of analytical tools we have used for the research work.

The principle which was followed in evaluating the innovation potential of selected organizations (also selected companies) is implied in Figures 3–8.

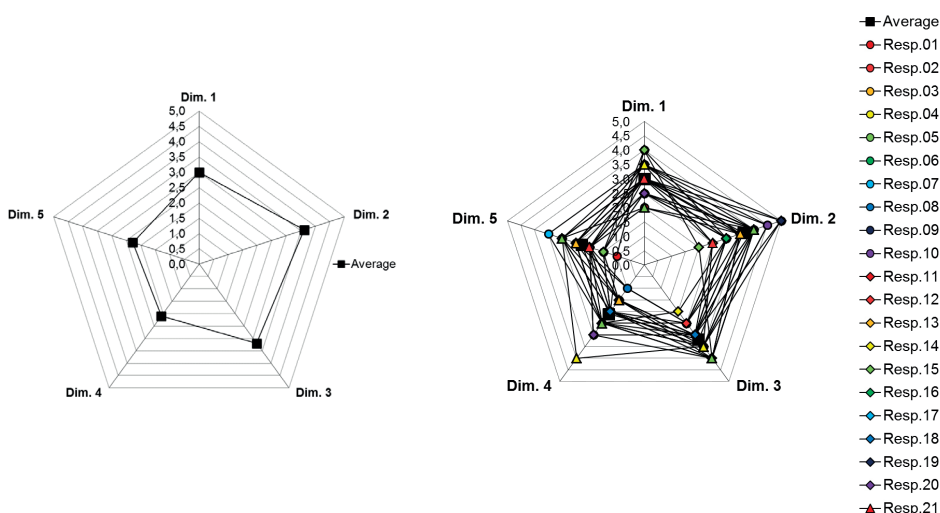


Fig. 1. Output radar chart of University of Entrepreneurship and Law questionnaire. An example of the average result – innovative company identification with the dominance of product innovation (source: created by authors)

Fig. 2. Output radar chart of University of Entrepreneurship and Law questionnaire. An example of result for particular respondents *versus* average result of identification-innovative company identification with the dominance of product innovation (source: created by authors)

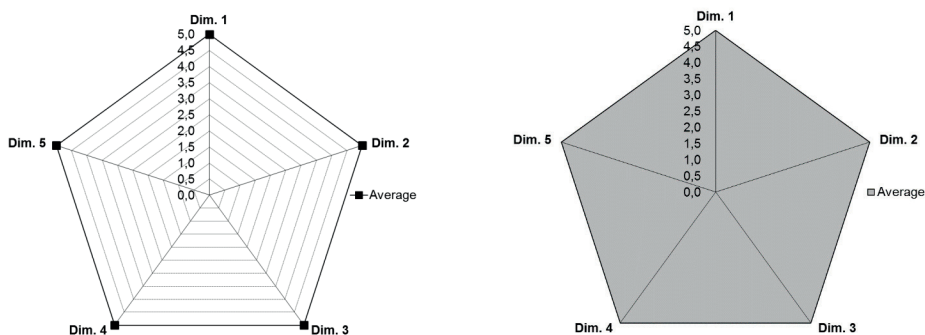


Fig. 3. Identification of the innovation potential of the company. The ideal case where all the dimensions in the company exist and respondents rated them with the maximum possible way (they gave them maximum points) (source: created by authors)

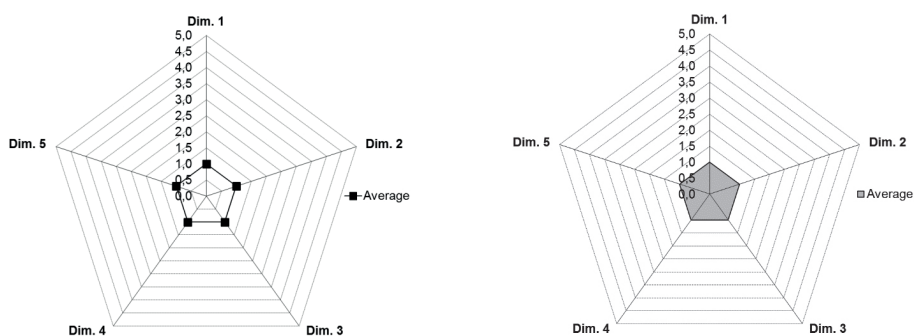


Fig. 4. Identification of the innovation potential of the company. The extreme case although all the dimensions in the company exist, however respondents rated them with the lowest possible way (they gave them minimum points) (source: created by authors)

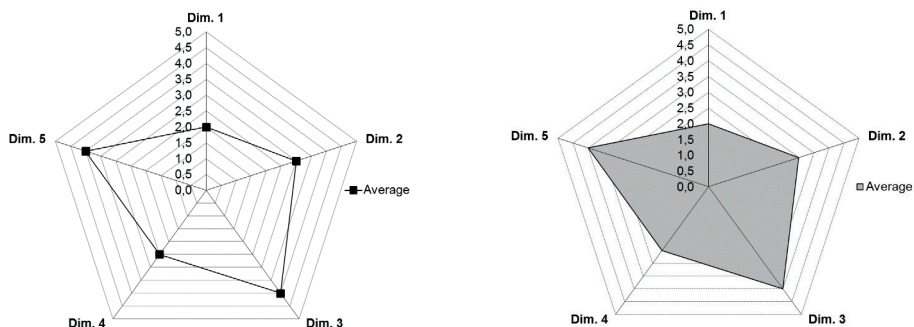


Fig. 5. Identification of the innovation potential of the company. The case where all the dimensions in the company exist and respondents rated them with the highest and the lowest possible way (source: created by authors)

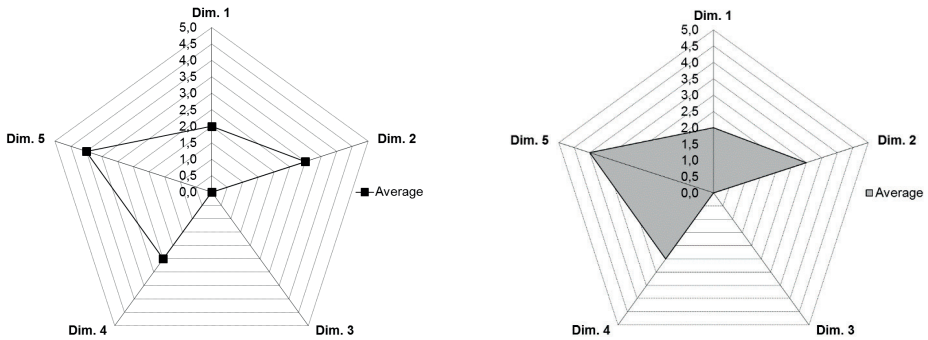


Fig. 6. Identification of the innovation potential of the company. The case where the dimension 3 does not exist (respondents did not rate it). The other dimensions were rated by respondents with the highest and the lowest possible way (source: created by authors)

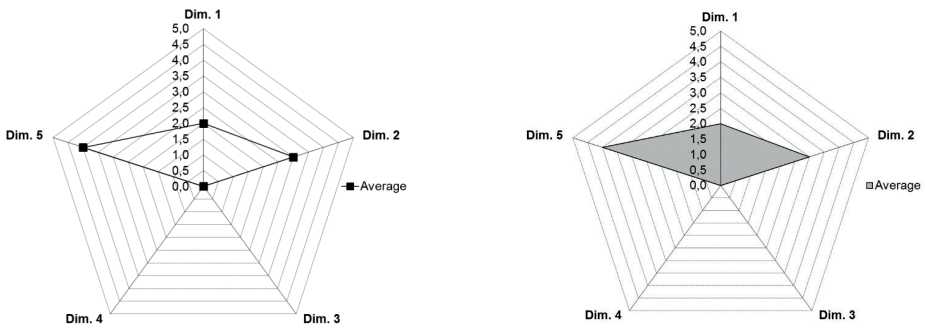


Fig. 7. Identification of the innovation potential of the company. The case where the dimensions 3–4 do not exist (respondents did not rate them). The other dimensions were rated by respondents with the highest and the lowest possible way (source: created by authors)

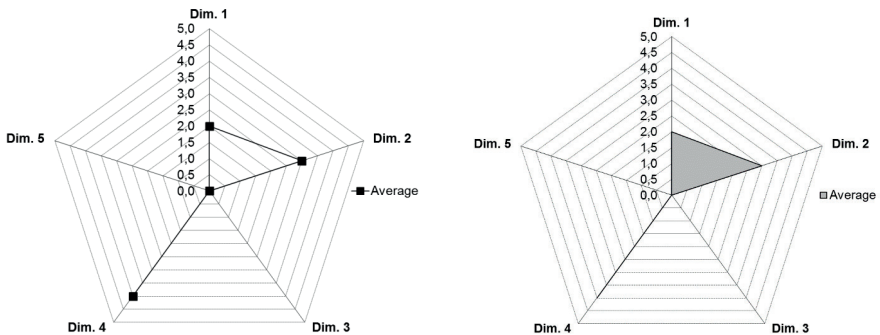


Fig. 8. Identification of the innovation potential of the company. The case where the dimensions 3–5 do not exist (respondents did not rate them). The other dimensions were rated by respondents with the highest and the lowest possible way (source: created by authors)

Examples of assessment of creativity and innovativeness of the firms

This chapter contains the results of research innovation potential for 32 companies, where the survey was implemented. The results of the research are available in Figures 9–12. Each image is then briefly mentioned a verbal evaluation of the innovation potential of companies (dimensions 2–4). The narrative assessment was used to scale: very strong/significant (the predominance of guest “definitely yes”), strong/significant (“yes” predominance of guest) – weak (the predominance of guest “do not know”, or something “yes”, and something “no”), unsatisfactory (the predominance of guest “no”) – a very unsatisfactory (the predominance of guest “definitely not”). In the same way they are evaluated the dimensions 1 and 5, which indicate the level of management and entrepreneurial behaviour of the company.

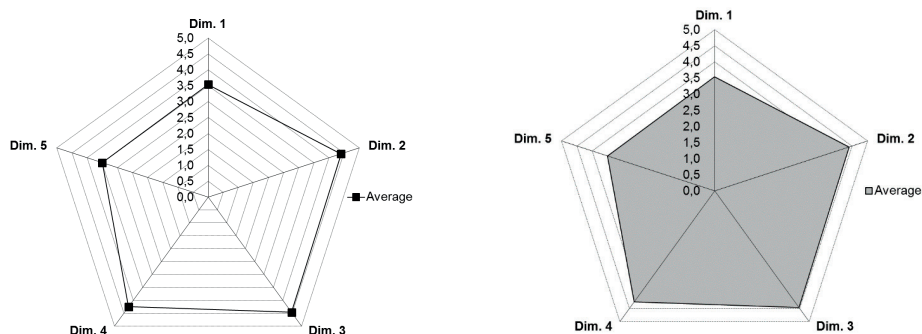


Fig. 9. Identification of the innovation potential of the company. Respondents rated the dimensions 1–5. Dimensions 2–4 are rated as significant (processes) to “almost” a very significant (products, services). Dimension 1 is ranked as weak. Dimension 5 is rated as weak as well. Conclusion: According to the respondents, the innovative potential of the company is “almost” a very strong/significant, modern management policy application is weak; the entrepreneurship of the company is weak (source: created by authors)

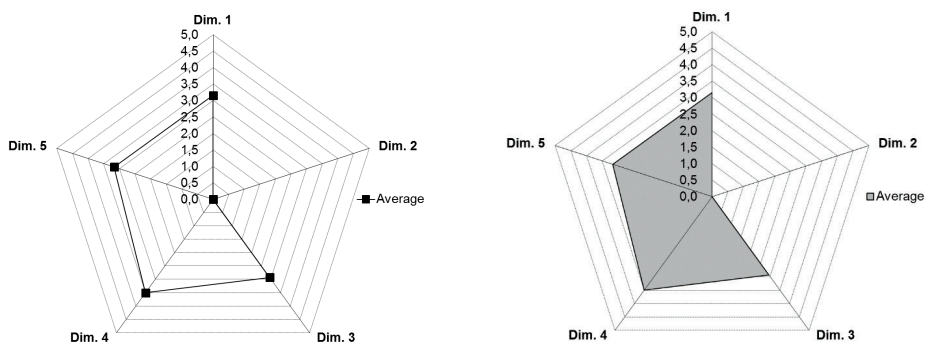


Fig. 10. Identification of the innovation potential of the company. Respondents rated only the dimensions 1, 3–5. Dimensions 3–4 are rated as weak (services) to “slightly” significant (processes). Dimension 1 is ranked as weak. Dimension 5 is rated as weak as well. Conclusion: According to the respondents, the innovative potential of the company is weak, modern management policy application is weak; the entrepreneurship of the company is weak (source: created by authors)

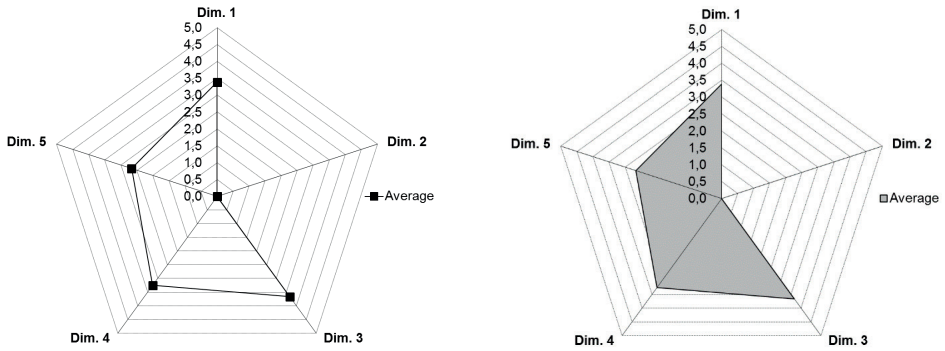


Fig. 11. Identification of the innovation potential of the company. Respondents rated only the dimensions 1, 3–5. Dimensions 3–4 are rated as weak (processes) to “slightly” significant (services). Dimension 1 is ranked as weak. Dimension 5 is rated as unsatisfactory. Conclusion: According to the respondents, the innovative potential of the company is weak; modern management policy application is weak; the entrepreneurship of the company is unsatisfactory (source: created by authors)

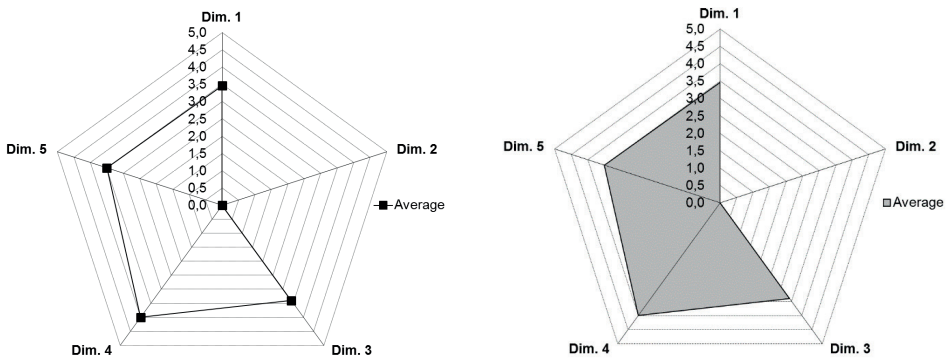


Fig. 12. Identification of the innovation potential of the company. Respondents rated only the dimensions 1, 3–5. Dimensions 3–4 are rated as weak (services) to significant (processes). Dimension 1 is ranked as weak. Dimension 5 is rated as weak. Conclusion: According to the respondents, the innovative potential of the company is “slightly” significant, modern management policy application is weak; the entrepreneurship of the company is unsatisfactory (source: created by authors)

Conclusions

The paper presents some our experience which we have acquired within the research project of “Model of Creative and Innovative Organizations and Its Verification in Conditions of the Moravian-Silesian Region”. We have provided experience that we have gained from other research papers of the same focus and by studying major theoretical sources (Bygrave, Zacharakis 2010; Clydesdale 2010; Dacey, Lennon 1998; Dahlén 2008; Davidsson *et al.* 2006; Goldenberg, Mazursky 2008; Gundry, Kickul 2007;

Košturiak, Chal' 2008; Higgins 2006; Kirby 2002; Legge, Hindle 2004; Morris *et al.* 2011; Rogers 2003; Runco 2007; Shavinina 2003; Tidd, Bessant 2009; Trott 2008).

When processing the research, we decided to use structured and assisted (i.e. “face-to-face”) interviews. The reason was the fact that many people in companies are not clear about what is and what is not, the idea of innovation, creativity, implementation (realization) of innovation, etc. Therefore, it was always necessary to explain important terms to all respondents before filling in the questionnaire. Without this explanation, the research results would have been completely not applicable. This was also the reason why we did not send the questionnaires in hundreds or thousands via the Internet. Random sending the questionnaires by email would not ensure that the questionnaires are filled in by people who have a real overview of the subject, therefore the issue really know. So a personal meeting with respondents have significantly increased the explanatory quality of the research results.

The verification of validity we performed in the companies, which are obviously creative and innovative as well as researching the companies, which are obviously non-creative and non-innovative. In all these cases, the validity of the model was verified and confirmed.

Finally, therefore it can be concluded that the questionnaire created as a tool, with which we have analysed the data, provides the relatively accurate results for the evaluation of creativity and innovativeness of the companies. For full verification of the validity of the questionnaire and the tools, there would be needed to implement the research, however, for a much larger sample of companies, the higher – the better. But from our point of view, even the results, we have achieved with very limited resources, have confirmed good suitability, reliability and repeatability of the methodology we have developed for identification of creative and innovative companies.

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KŪRYBIŠKŲ IR INOVATYVIŲ BENDROVIŲ IDENTIFIKAVIMAS

Ivo FORMÁNEK, Vladimír KRAJČÍK

Santrauka

Čekijos verslo ir teisės universitetas ilgą laiką specializavosi tyrimų, skirtų kūrybiškoms ir inovatyvioms bendrovėms identifikuoti, srityje. Šias bendroves charakterizuoja kūrybiškas ir inovatyvus požiūris į jas pačias ir jų kuriamus produktus. Straipsnyje pristatoma autorių patirtis, įgyta jiems dirbiantis prie „Kūrybiškų ir inovatyvių organizacijų bei jų patikros Moravijos–Silezijos regiono sąlygomis“ tiriamojo projekto. Klausimynas apie surinktus duomenis ir duomenų analizei skirta analitinė priemonė taip pat buvo integrali tiriamojo projekto dalis. Šis projektas įvykdytas 2014 m., jame buvo remiamasi keletu ankstesnių tiriamųjų darbų, skirtų kūrybiškoms ir inovatyvioms bendrovėms Moravijos–Silezijos regione identifikuoti. Šiuo metu autoriai dar tebetobulina kūrybiškų ir inovatyvių bendrovių identifikavimo metodus. Straipsnyje apžvelgiama įgyta praktinė patirtis.

Reikšminiai žodžiai: kūrybiškos ir inovatyvios bendrovės, verslumas, inovacija, išradimo procesai, išradingumas.