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THE IMPORTANCE OF INNOVATION AND ITS FINANCING METHODS FOR SMES IN PODRAVINA REGION

VAŽNOST INOVACIJA I NJIHOVIH METODA FINANCIRANJA ZA MALA I SREDNJA PODUZEĆA U PODRAVINI

Professor Dinko PRIMORAC, PhD
University North
Trg dr. Žarka Dolinara 1
Koprivnica, Croatia
dinko.primorac@unin.hr

ABSTRACT

Nowadays, in modern and turbulent business environment, it's very hard for SMEs to prevail everyday challenges' without introducing innovations in their business models. However, innovations are usually not cheap or easy to implement. Moreover, not all entrepreneurs have possibility and knowledge to access all possible ways of financing for SMEs innovations. Therefore, the aim of this paper is to examine how do SMEs use financing methods for their innovations in northern part of Croatia - Podravina region. An empirical research is conducted with intention to analyze how do SMEs finance their innovations and whether they use own ways of financing or some sort of EU funds or state agencies. It is very interesting to observe that majority of analyzed SMEs still use old-fashioned ways of innovations financing, even though there are very cheap and very assessable ways of financing at their reach.

Ključne riječi: financiranje, inovacije, Podravina, malo i srednje poduzetništvo (SMEs)
Key words: financing, innovations, Podravina region, small and medium enterprises (SMEs)

1. INTRODUCTION

Innovation consists of processes that create any sort of added value to an organization. Furthermore, it creates added value to its suppliers and customers through the development of new processes, new business solutions, products and services, and commercialization methods.[1] Moreover, innovation is method in which company stops doing what it used to do and doesn't do it anymore. Innovation is a system of development and production of innovative products and services. It is development is a structured process of collecting, evaluating and selecting ideas all the way to its commercialization.

By analyzing modern literature, we can realize that many authors understand innovation as a result of a new or substantially improved product, process or service. Product innovation is the process of bringing to market a new or significantly improved physical product or service in terms of characteristics such as the capabilities of the product or service, its adaptability to the user, components or subsystems. It is the result by which an idea or invention is turned into a commercial good or service for the market. Process innovation is the application of a new or significantly improved production process, product distribution method, or support activities for products and services. Process innovati-

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[1] Rutherford M.W., Holt D.T.,(2007), *Corporate entrepreneurship: An empirical look at the innovativeness dimension and its antecedents,* Journal of Organizational Change Management, Vol. 20, No. 3

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ons typically lower costs and / or increase the quality of production of existing products or service provision.[2]

Innovation is not an invention or a discovery. Invention is the precursor of innovation; it is the result of research activity. It appears as an idea, a sketch for new processes, products, etc.[3] An innovation can be a new product or service, an administrative system or a new plan, and a program that applies to company employees. Innovation can be seen as an invention only at the moment when it is placed on the market or the production process is changed for the first time. Innovation is the design and development of something new, unknown and non-existent, which will establish a new configuration between old, known and existing elements.[4] Innovation is a change of creativity, and often involves the coordinated activity of several groups of people to develop something new and useful in the function of achieving organizational goals.[5]

Innovations are most often divided into radical and incremental. Radical innovations are solutions that are new, pioneering, original and revolutionary on a global scale. Such innovations change the way we think and use, and can sometimes cause a strategic break in the company, changing the company and the industry to which the company belongs.[6] On the other hand, there are incremental or small innovations that represent constant small improvements that refine and expand business processes, products and services.[7] We live in an era where business takes place under the influence of a high degree of change in all areas. In such conditions, innovation becomes a prerequisite for business success, but also for survival. This is the reason why innovation has become one of the most important topics in business systems around the world, related to all business segments and all parts of the organization. In order for a company to survive, innovation needs to be maximized.[8] There are companies with a small number of innovations per year, all the way to those where changes happen every couple of weeks or days. At a low level of innovation there are no unknowns, change needs to be made, unlike high level where we have a situation where something needs to be changed in a radical way.

The intention of this paper is not only to show the importance of innovations, but to show difficulties that companies face in order for finance innovation. It is well known that today's world is changing rapidly and in order to survive companies much change or adopt. However, majority of companies have difficulties to finance innovations due to lack of resources or lack of knowledge about financing possibilities. This paper shows how do companies in Podravina region finance their innovations and what problems do they face.

2. RESEARCH METHODOLOGY

The measuring instrument, the survey questionnaire, for the purposes of this research is consisted by a set of questions answered by company owners or members of the company's management board. Responders expressed their agreement or disagreement with the stated statements in the Likert's

[2]   Shepard H.A., (1967), *Innovation-resisting and innovation-producing organizations*, Journal of Business, Vol. 40, No. 4

[3]   Drucker P., (1964), *Managing for results*, HarperCollins Publishers, New York

[4]   Utterback J.M., (1971), *The Process of Technological Innovation Within the Firm*, Academy of Management Journal, Vol. 14, No. 1, str. 77.; 2) Lee L.T., Sukoco B.M., (2007), *The Effects of Entrepreneurial Orientation and Knowledge Management Capability on Organizational Effectiveness in Taiwan: The Moderating Role of Social Capital*, International Journal of Management, Vol. 24. No. 3

[5]   Khandwalla P.N., (2006), *Tools for Enhancing Innovativeness in Enterprises*, The Journal for Decision Makers, Vol. 31., No. 1

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[8]   Zhao F., (2005), *Exploring of the synergy between entrepreneurship and innovation*, International Journal of Entrepreneurial Behavior and Research, Vol. 11, No. 1.

Picture 1. Map of Croatian region Podravina
Source: https://www.enciklopedija.hr/natuknica.aspx?id=48932

five-point scale. The statements used in individual measurement scales are either originally developed for the purposes of this paper, or reworked and adapted from already existing measurement scales that can be found in previous scientific research.

Empirical research was conducted on three samples. The sample was defined as one of Croatian regions called Podravina in which the respondents were surveyed. Moreover, Podravina region was divided into three major city areas; Ludbreg city area (Area 1), Koprivnica city area (Area 2), Đurđevac city area (Area 3). The sample of companies, which was taken for this research, was random and the survey questionnaire was sent to the addresses of 100 companies in each of the selected regions. In the period of 50 days, after the beginning of the primary research, 86 completed questionnaires were received from Area 1, 68 completed questionnaires were received from Area 2, and 57 companies from Area 3 responded to the questionnaire.

During the data analysis, descriptive statistics methods, inferential statistics methods, and selected multivariate analysis methods were applied.[9] Descriptive statistics methods were used for the purpose of calculating basic descriptive-analytical quantities or parameters such as; arithmetic mean, mod, median. Moreover, the measure of dispersion, i.e., standard deviation and the measure of asymmetry were used in the research. The values of the nominal variables are shown through both absolute and relative frequencies, i.e., percentages.

3. RESEARCH ANALYSIS

In the Chart 1. we can see the structure of analyzed companies in Podravina regions by its economic activities. In the research an economic activity is divided into major areas; agricultural production, manufacturing production, construction, trade, transportation, real estate business, tourism, education, and other. We noticed that in all Areas the dominant economic activity is agricultural production. However, for the Area 3 agricultural production is the most dominant. It is interesting to notice that constructions present the less dominant activity in analyzed companies.

In the Chart 2. we can see the structure of analyzed companies by its operating markets. In the research an operating market is divided into major areas; local market, national market, regional market which include all ex. Yugoslavia countries, EU-28 market, and international market. We see that in Area 3 majority of companies are adapted for markets that are wider than national market. Moreover, we see that only 18% companies responded to operate in local or regional market, which conclude its influence
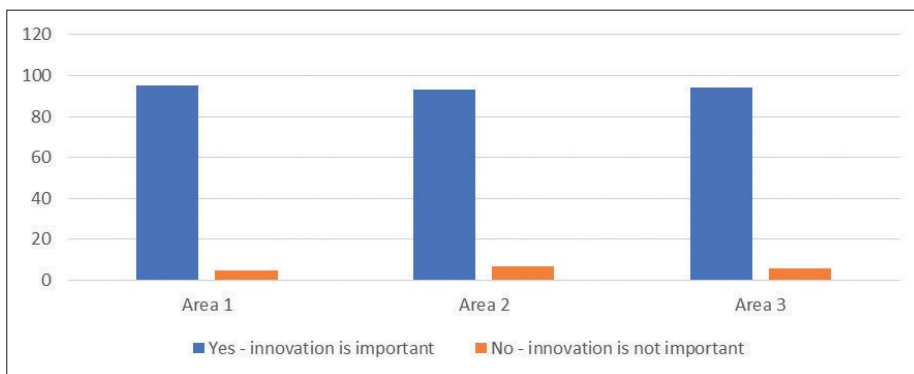
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9   For dana analysis statistic program SPSS20 was used.

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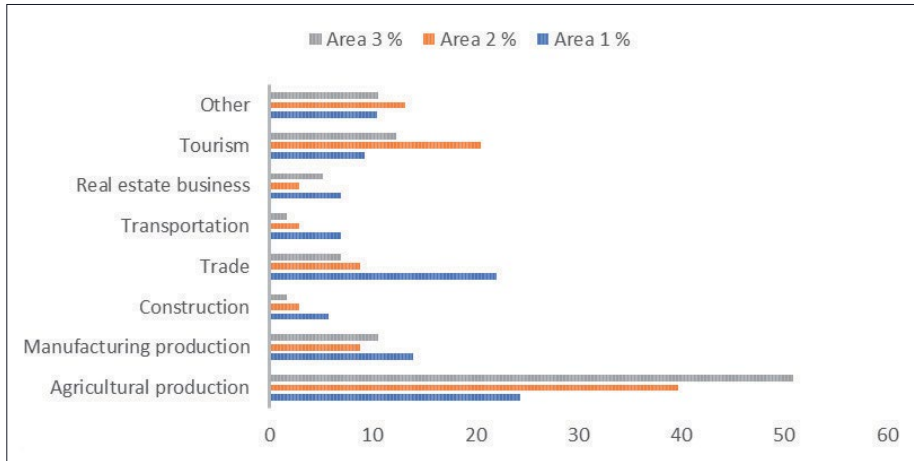
Chart 1. Economic activities of analyzed companies
Source; author's research
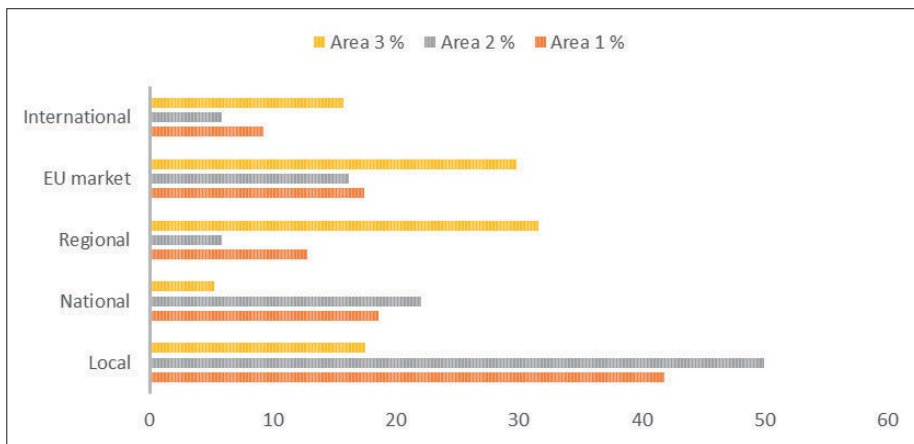
Chart 2. Economical activities in selected operating markets
Source; author's research

Chart 3. The importance of innovation for business operations
Source; author's research

by foreign economies. On the other hand, in Area 2 almost 50% od companies operate in local market and only 8% in regional market.

When we analyze the conducted research, we can see in Chart 3. that the majority of respondents, from all three analyzed Areas, believe that innovation is an important factor in business operations.

This statement is confirmed in Table 1. by the Hi-quadrant test. Moreover, we see that Pearson's Hi-quadrant is not significant (0.445) since the empirical level of significance (0,78763) is significantly above the theoretical one.

In the survey the respondents were asked to evaluate how much each statement describes the business practice of their company on a scale from 1 to 5. The aim of this question was to determine in which sectors of business operations the company is trying to implement innovations. In Tables 2,3, and 4 we see that the possible ways of innovations were defines as: A - the company places emphasis on

	Value	s.s.	p – value
Pearson Hi-quadrant	0,445	2	0,78763
Likelihood Ratio	0,467317	2	0,7956
Linear-by-Linear Association	0,146781	1	0,715771

Table 1. Hi – quadrant test; the importance of innovation for business operations
Source: author's research

The ways of innovation	N	Min	Max	Mod	Arithmetic mean	Standard deviation	Asymmetry coefficient
A	86	1	5	4	3,05	1,360	-0,211
B	86	2	5	5	4,12	0,908	-0,652
C	86	1	5	5	3,90	1,073	-0,786
D	86	2	5	5	3,98	0,981	-0,433
E	86	1	5	1	2,15	1,145	0,616

Table 2. Descriptive analysis of company innovations in Area 1
Source: author's research

The ways of innovation	N	Min	Max	Mod	Arithmetic mean	Standard deviation	Asymmetry coefficient
A	68	1	5	3	2,88	0,806	0,322
B	68	1	5	3	3,65	0,839	-0,107
C	68	1	5	4	3,67	0,846	-0,290
D	68	1	5	3	3,69	0,860	-0,062
E	68	1	4	2	2,45	0,960	0,068

Table 2. Descriptive analysis of company innovations in Area 2
Source: author's research

The ways of innovation	N	Min	Max	Mod	Arithmetic mean	Standard deviation	Asymmetry coefficient
A	57	2	4	2	2,83	0,798	0,317
B	57	1	5	4	3,58	0,838	-0,472
C	57	1	5	4	3,68	0,775	-0,246
D	57	1	5	4	3,51	0,651	-0,563
E	57	1	5	3	2,51	0,978	0,004

Table 3. Descriptive analysis of company innovations in Area 3
Source: author's research

research and development, B - the company places emphasis on new ways of customer relations, C - the company places emphasis on employee's motivation to come up with new ideas, D - the company places emphasis on the new possibilities in the field of exploring new potential markets, E - the company places emphasis on reducing operating costs and increasing its competitiveness.

In Table 2. we see that most of responders in Area 1 agree with statement B that the company places emphasis on new ways of customer relations, e.g., arithmetic mean is 4,12 and the most common grade is 5. Furthermore, it is interesting to notice that none of responders did not answer with grade 1 for statements B and D.

In Table 2. we see that most of responders in Area 2 agree with statements C and D e.g., arithmetic means are 3,69 and 3,67. Furthermore, it is interesting to notice that all of responders answer with grade 1 for statements all the statements.

In Table 3. we see that most of responders in Area 3 agree with statement C e.g. arithmetic means are 3,68 the most common grade is 4. Furthermore, it is interesting to notice that none of responders answer with grade 1 for statements A.

After a descriptive analysis of innovation in all Areas Table 4. compares the obtained results. The lowest average score in all three samples was given for the claim that the company places emphasis on reducing operating costs and increasing its competitiveness. Furthermore, it was found that companies, from all three analyzed regions, generally do not have a negative attitude towards emphasis on research and development. Respondents, from all three analyzed regions, gave high average scores to claims that

		Sum of squares	s.s.	Middle of squares	F - ratio	p-value
A	Between groups	2,377	2,0	1,188	1,237	0,292
	Inside groups	295,919	308,0	0,961		
	Total	298,296	310,0			
B	Between groups	15,452	2,0	7,726	10,507	0,000
	Inside groups	226,484	308,0	0,735		
	Total	241,936	310,0			
C	Between groups	3,202	2,0	1,601	2,024	0,134
	Inside groups	243,647	308,0	0,791		
	Total	246,849	310,0			
D.	Between groups	10,083	2,0	5,041	7,300	0,001
	Inside groups	212,702	308,0	0,691		
	Total	222,785	310,0			
E	Between groups	6,782	2,0	3,391	3,273	0,039
	Inside groups	319,141	308,0	1,036		
	Total	325,923	310,0			

Table 4. ANOVA - differences and similarities in innovation between companies
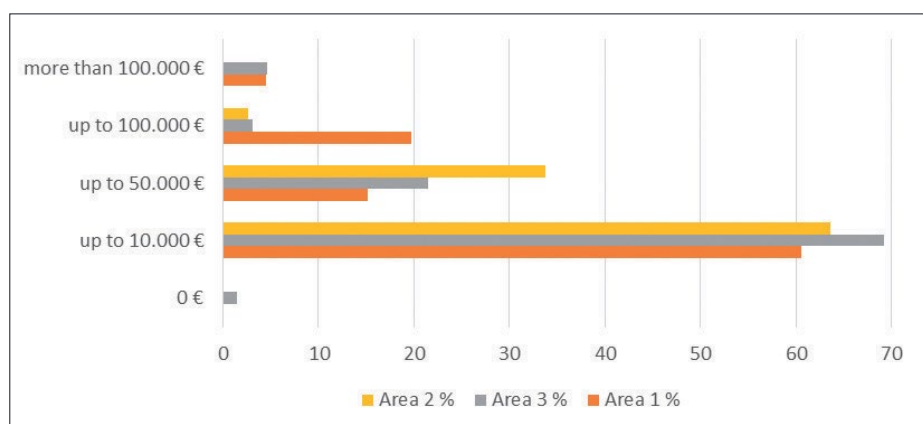
Source: author's research

the company places emphasis on the new possibilities in the field of exploring new potential markets, that the company places emphasis on employee's motivation to come up with new ideas, that the company places emphasis on new ways of customer relations.

When we analyze the data related to the financing of innovation in Chart 4., we notice that the expenditures for financing innovative activities in most companies, in all three analyzed regions, amounted up to 10,000 euros (61 percent in Area 1, 69 percent in Area 3 and 64 percent in Area 2).

Moreover, in Area 2 the average share of companies whose expenditures for financing innovations were up to 50,000 euros is 34 percent, while in Area 1 the average number of companies allocated above 100,000 euros is about 20 percent. In Area 2, no company allocated more than 100,000 euros, while in Area 1 there were 4.5 percent of such companies, and in south region 3.2 percent.

The Hi-square test in Table 5. also points to significant differences between regions with regard to the level of expenditures for financing innovations.

When we analyze sources of funding for innovation in Chart 5. we see that companies from all three analyzed regions combine different sources of funding but in different proportions. The most common

Chart 4. Expenditures for financing innovative activities

Source: author's research

Table 5. Hi – quadrant test; expenditures for financing innovative activities

	Value	s.s.	p - value
Pearson Hi-quadrant	27,204	8	0,000652
Likelihood Ratio	28	8	0,000474
Linear-by-Linear Association	4,85	1	0,027619

Source: author's research

**Table 6.** Hi – quadrant test; received aid for innovation

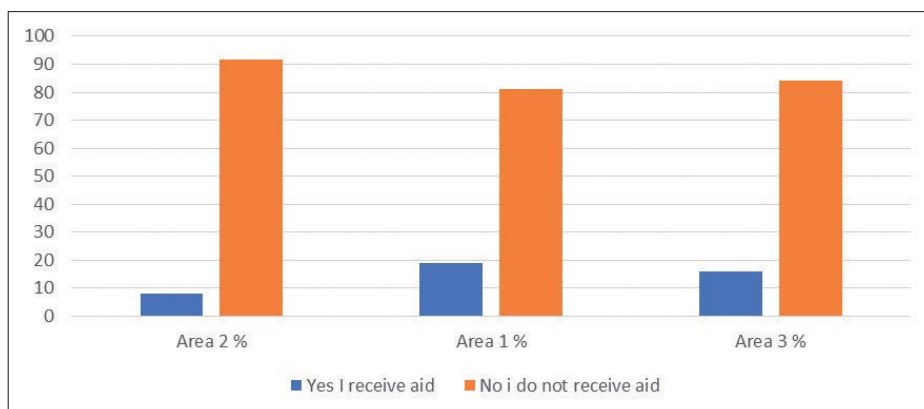|	Value	s.s.	p - value
Pearson Hi-quadrant	6,070	2	0,048
Likelihood Ratio	7,046	2	0,030
Linear-by-Linear Association	0,126	1	0,722

Source: author's research

source of financing, for companies in all three regions, are banks' own funds and loans. A very small share of companies in both Area 2 (2.6 percent) and Area 1 (7.7 percent) use supplier loans as a source of financing. However, it is interesting to note that in Area 3 this method of financing innovation is practiced by as many as 18.5 percent of companies that have introduced innovation. Financing of innovations through leasing is practiced by 20 percent of companies in Area 1, 13 percent in Area 3, while in Area 2 this source is used by as many as 31 percent of companies.

When analyzing possible state or EU aid for introduced innovations in companies, we can see in Chart 6. that in Area 1 about 19 percent of the total number of companies that developed innovation received state/EU aid, in Area 2 only about 8 percent, and in Area 3 about 16 percent.

The significant statistical differences among analyzed areas is confirmed by the Hi-square test in Table 6. The value of Pearson Hi – quadrant is 6,070 and likelihood radio is 7,046. Moreover, the value of Linear-by-Linear association is 0,126.
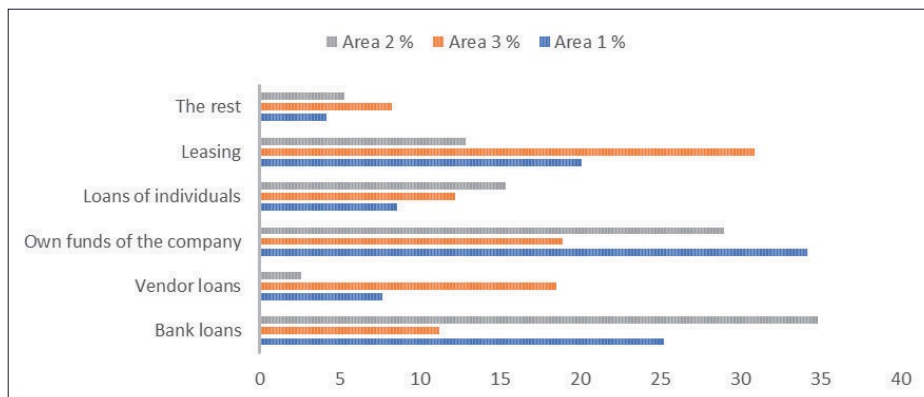
Chart 5. Possible sources of funding for innovative activities
Source: author's research

Chart 6. Received aid for innovation
Source: author's research

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D. PRIMORAC - VAŽNOST INOVACIJA I NJIHOVIH METODA FINANCIRANJA

4. CONCLUSION

Nowadays, in modern and turbulent business environment, it's very hard for SMEs to prevail every-day challenges' without introducing innovations in their business models. However, innovations are usually not cheap or easy to implement. Moreover, not all entrepreneurs have possibility and knowledge to access all possible ways of financing for SMEs innovations. Therefore, the aim of this paper is to display if SMEs care about innovations and how do SMEs finance their innovations. Therefore, an empirical research is conducted in three separated parts of Croatian regions named Podravina.

Through the conducted research it is clearly established that the vast majority of respondents perce-ive innovation as a very important link for their business performances. However, it is very interesting how do responders perceive the importance of each of the types of innovation presented. The lowest average score in all three samples was given for the claim that the company places emphasis on redu-cing operating costs and increasing its competitiveness. Furthermore, it was found that companies, from all three analyzed regions, generally do not have a negative attitude towards emphasis on research and development. Respondents, from all three analyzed regions, gave high average scores to claims that the company places emphasis on the new possibilities in the field of exploring new potential markets, that the company places emphasis on employee's motivation to come up with new ideas, that the company places emphasis on new ways of customer relations.

On the other hand, if we compare expenditures for financing innovative activities, we see that each area has it owns regularities. Expenditure for financing innovative activities amounted up to 10,000 euros is leading in all three regions. However, in Area 2, the average share of companies whose expen-ditures for financing innovations were up to 50,000 euros, is 34 percent. In Area 1 the average number of companies allocated above 100,000 euros is about 20 percent. In Area 2 no company allocated more than 100,000 euros, while in Area 1 there were 4.5 percent of such companies, and in Area 3 is 3.2 percent. We can conclude that there are significant differences in expenditures for financing innovative activities between analyzed regions. Furthermore, the results regarding different sources of funding are very interesting; we see that in every region companies used different sources of funding.

However, the most shocking result from the research is that majority of analyzed companies do not use state or EU aid for their innovations. It is very hard to say 100% sure why is that, e.g., Croatia as EU member has all privileges to use all EU funds. Therefore, SMEs should use all means available in order to improve business performances. It can certainly be argued that all participants in business society (SMEs, state agencies, EU agencies, etc.) should put all the effort to educate SMEs in order to take much more benefits for available funds.

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D. PRIMORAC - **VAŽNOST INOVACIJA I NJIHOVIH METODA FINANCIRANJA**

SAŽETAK

U današnjem modernom i turbulentnom poslovnom okruženju malim i srednjim poduzećima vrlo teško je prevladati svakodnevne izazove bez uvođenja inovacija u svoje poslovne modele. Međutim, inovacije uobičajeno nisu jeftine te ih nije jednostavno implementirati. Štoviše, nemaju svi mali i srednji poduzetnici mogućnost i znanje za pristup svim načinima financiranja inovacija. Stoga, cilj ovog rada je ispitati kako SMEs koriste metode financiranja za svoje inovacije u sjevernom dijelu Hrvatske, tj. u području Podravine. Empirijsko istraživanje provodi se s namjerom da se analizira kako SMEs financiraju svoje inovacije, te koriste li se vlastitim izvorima financiranja ili EU fondovima/državnim agencijama. Vrlo je zanimljivo primijetiti da se većina analiziranih SMEs i dalje koristi staromodnim načinima financiranja inovacija, iako su im na raspolaganju vrlo jeftini i vrlo pristupačni načini financiranja.