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# IMPACT OF INNOVATIVENESS ON BUSINESS PERFORMANCE IN CROATIAN COMPANIES

## ABSTRACT

The purpose of the research was to examine the relationship between innovativeness and business performance in Croatian export companies. The research involved 303 Croatian companies from the fields of manufacturing industry and information and communication technology. The research was conducted through a survey method during the last three months of 2016. The sampling method used for the purpose of this research was stratified random sampling, while regression analysis was used for data analysis. The structure of correlation between individual responses and individual groups of responses was analysed by canonical analysis and cluster analysis. The results show that there is a positive relationship between innovativeness and business performance in Croatian companies. The research has practical implications for Croatian companies in the ability to increase their efficiency and innovativeness. The empirical contribution was achieved by defining the direction and impact of innovativeness on business performance. The results offer theoretical and managerial implications. In the context of this research, it is likely that innovativeness and business performance influence a company's innovative activities, which can be positively reflected in creating and maintaining the competitive advantage on the market.

**Keywords:** Innovativeness, product innovation, process innovativeness, business performance, Croatian companies

## 1. Introduction

The paper raises the following research question: How does innovativeness influence business performance in companies? This problem has been recognized by many authors (Hult et al., 2004; Nybakk, 2012). Research results confirm the importance of a positive link between innovativeness and business performance. Many scientists believe that business performance and innovation are closely related (Calantone et al., 2002; Hult et al., 2004; Nybakk, 2012). Due to the complex economic situation and the need for faster economic growth and development of Croatian companies, an interest in

exploring the connection between innovation and business performance has emerged.

Although many researchers have explored the effect of innovativeness on a company's performance, research literature seems to be lacking applicable studies with regard to observing their relationship in different countries. Therefore, this study attempts to fill this gap, to evaluate the relationship between business performance and innovativeness in Croatian companies, and to develop and test the following research hypothesis: *There is a positive relationship between innovativeness and business performance in Croatian companies.* Research is

organized in the following way: firstly, the literature review on business performance is introduced, including various indicators that measure business performance and innovativeness. Then a hypothesis is proposed, followed by the description of the method and then the results of the research are presented. Finally, there is the conclusion that leads to theoretical and practical implications.

## 2. Literature review

### 2.1 Innovativeness

In times of globalization, economic and social changes, and technological achievements, innovation is essential to the development of business and the entire economy. Positive effects of innovation on the economy are numerous and are reflected in the increase in employment, gross domestic product, export, foreign exchange inflows, the exchange of new technologies, and increasing competitiveness. Some contributing factors are structural institutional changes in promoting entrepreneurship, liberalization of international trade and the change of the external environment, as well as rapid development of modern technologies that opened up numerous opportunities for companies. Innovation development is a set, risky, and long-lasting business process, however, all these complex efforts cannot guarantee market success (Šlogar, 2018).

Economic innovativeness is usually defined as “the ability of a given economy to create innovation, where *ex ante* is the potential to create innovations and *ex post* is the total effect of innovative activities of enterprises functioning in the economy in a given period of time” (Weresa, 2014: 74). Innovativeness can be present in the company in various forms – from simple readiness to try out a new product line or form of advertising, to the commitment to constantly upgrade existing products and technology. Different criteria are set as a measure of applied innovation in companies. Innovation refers to the company’s efforts to develop and support new ideas, experiments, and creative processes that could result in new products, services, or technological processes (Lumpkin, Dess, 1996).

In this paper, company innovativeness is defined as a company’s propensity to create and/or adopt new products, production processes, and business systems. Product innovation includes the development or adoption of new products as well as improvements to existing products and is widely rec-

ognised as an important factor for manufacturing firms. Process innovativeness is defined as an action that leads to process innovation and as the process itself (i.e. the technology and improvements used in production) that constitutes the innovation. Business system innovativeness can be applied to every aspect of the firm that is necessary for the management, structure, operation, and administration of business and its internal and external environments (Nybakk, 2012: 5). The research conducted by Hult et al. (2004) confirmed that innovation is an important determinant of business performance, regardless of market turbulence in which the company operates.

This means that innovative activities generally contribute a lot to the company’s success. Consequently, managers should drive the innovation in their firms to achieve superior business performance. Product innovation without the support from management or the sales department will result in minimal profit. Product innovation without corresponding innovation in manufacturing will reduce the potential maximum profit. Product innovation without innovative ways to address consumer demands will erode the credibility of the company (Gaynor, 2009: 14). Nybakk (2012) examines the relationship between learning orientation, innovation, and financial performance among Norwegian manufacturing companies’ directors. The results have shown that learning orientation has a positive impact on financial performance through the full impact of innovation on the company. It was concluded that a company’s innovation has an independent positive impact on the financial result. No direct impact of learning orientation on financial performance was found (Nybakk, 2012). Soininen et al. (2015) state that companies exposed to higher levels of innovation and proactivity have better business outcomes during crises. Šlogar et al. (2018) indicated a positive and statistically significant correlation between innovativeness, proactivity, competitiveness and company’s business performance. Šlogar and Bezić (2019a) found that there is no positive relationship between the number of employees and innovation, age and innovation of the company, or the level of education and innovation, which can affect business performance. Furthermore, Šlogar and Bezić (2019b) show a statistically significant positive relationship between innovativeness and exports in Croatian companies, which can positively affect the company’s operations.

Table 1 Deloitte – Technology Fast 50, Croatian companies 2014 - 2019

| Year | Rang | Companies                                   | Sectors                   | Growth |
|------|------|---|---------------------------|--------|
| 2014 | 9    | Infinum d.o.o.                              | Software                  | 1168%  |
|      | 13   | Nanobit d.o.o.                              | Software                  | 876%   |
|      | 21   | Europa Digital d.o.o.                       | Media & Entertainment     | 536%   |
|      | 43   | Lemax d.o.o.                                | Software                  | 359%   |
| 2015 | 9    | Serengeti d.o.o.                            | Software                  | 843%   |
|      | 11   | Nanobit d.o.o.                              | Software                  | 754%   |
|      | 18   | Integracija od-do d.o.o.                    | Software                  | 539%   |
|      | 24   | Sedmi odjel d.o.o.                          | Software                  | 476%   |
|      | 30   | Infinum d.o.o.                              | Software                  | 397%   |
|      | 42   | InfoCumulus d.o.o.                          | Software                  | 277%   |
|      | 46   | Acceleratio d.o.o.                          | Software                  | 256%   |
| 2016 | 19   | Gauss LTD d.o.o.                            | IT & Digital Solutions    | 736%   |
|      | 20   | Rimac Automobili d.o.o.                     | Clean Tech & Energy       | 702%   |
|      | 22   | Axilis d.o.o.                               | IT & Digital Solutions    | 613%   |
|      | 23   | Telum d.o.o.                                | Internet, Media & Telecom | 607%   |
|      | 28   | Hangar 18 d.o.o.                            | IT & Digital Solutions    | 527%   |
|      | 39   | Serengeti d.o.o.                            | IT & Digital Solutions    | 385%   |
| 2017 | 10   | Rimac Automobili d.o.o.                     | Clean Tech & Energy       | 1059%  |
|      | 23   | Code Consulting d.o.o.                      | IT & Digital Solutions    | 545%   |
|      | 25   | Telum d.o.o.                                | Internet, Media & Telecom | 520%   |
|      | 28   | Profico                                     | IT & Digital Solutions    | 466%   |
|      | 35   | Undabot d.o.o.                              | IT & Digital Solutions    | 421%   |
|      | 40   | Hangar 18 d.o.o.                            | IT & Digital Solutions    | 368%   |
|      | 45   | Gauss LTD d.o.o.                            | IT & Digital Solutions    | 347%   |
|      | 49   | Infinum d.o.o.                              | IT & Digital Solutions    | 315%   |
| 2018 | 3    | Q Software                                  | Software                  | 3 894% |
|      | 10   | Ars Futura d.o.o.                           | Software                  | 914%   |
|      | 14   | Microblink d.o.o.                           | Software                  | 702%   |
|      | 36   | Rimac Automobili d.o.o.                     | Hardware                  | 361%   |
|      | 40   | Infinum d.o.o.                              | Software                  | 315%   |
|      | 41   | Telum d.o.o.                                | Media & Entertainment     | 313%   |
|      | 47   | Profico (Innovatio Proficit d.o.o.)         | Software                  | 272%   |
| 2019 | 5    | BAZZAR.HR                                   | Media & Entertainment     | 2 821% |
|      | 16   | Q Ltd                                       | Software                  | 927%   |
|      | 27   | Ars Futura d.o.o                            | Software                  | 685%   |
|      | 35   | AG04 Innovative Solutions d.o.o. / AGENCY04 | Software                  | 551%   |
|      | 47   | Delta Reality                               | Software                  | 449%   |
|      | 50   | Agrivi d.o.o.                               | Software                  | 432%   |

Source: Deloitte Technology Fast 50 Central Europe (2014-2019)<sup>1</sup>, available at: <http://www.deloitte.com/cefast50>, (Accessed on: April 5, 2020)

Table 1 with the comparison of the results of Deloitte's research "50 Fastest Growing Technology Companies in Central Europe" shows that in 2019 six Croatian companies were listed among those 50 companies. In 2019, the highest ranked Croatian technology company was Bazaar.hr at 5<sup>th</sup> place, with an increase of 2821% over the last four years. Following is Q d.o.o. at 16<sup>th</sup> place, with growth of 927%; Ars Futura d.o.o. at 27<sup>th</sup> place with growth of 685%; AG04 Innovative Solutions d.o.o. at 35<sup>th</sup> place with 551% growth; Delta Reality ranked 47<sup>th</sup> with 449% growth; and Agrivi d.o.o. was in the 50<sup>th</sup> place with 432% growth. The survey provided an overview of the state of innovation development in companies and pointed to certain problems, but most importantly, emphasized the importance of innovation in achieving growth and competitive advantage on the market.

## 2.2 Business performance

There is no consensus among scholars regarding the appropriate measures of performance indicators. This has led to the use of a wide range of objective and subjective measures of success (Vij, Bedi, 2012). Several studies (Lumpkin, Dess, 2001; Kraus et al., 2012; Messersmith, Wales, 2013) have used perceived performance indicators to assess company performance. However, since the indicators were typically based on manager's subjective views about the company's profitability, growth, market share etc. and subjective proxies, the reported data may be prone to bias (Kraus et al., 2012).

On the other hand, studies have shown that there is a strong positive relationship between subjective and objective performance measures (Stam, Elfring, 2008; Messersmith, Wales, 2013) and thus it is justified to support the validity of subjective performance measures (e.g. Stam, Elfring, 2008; Harms et al., 2010; Cassia, Minola, 2012). Nevertheless, the link between company's innovativeness and performance has not been sufficiently tested (Calantone et al., 2002). In their meta-analysis of the entrepreneurial orientation study, Rauch et al. (2009) found that the concept of business performance was measured by archival financial measures in only seven studies. There are studies in which the relationship between entrepreneurial orientation and financial results has not been found (Stam, Elfring, 2008; Baker, Sinkula, 2009), but there are several studies that prove a positive relationship between the two variables (Wiklund, Shepherd, 2005; Rauch

et al. 2009). This confirms that archival measures of financial indicators are rarely used compared to different non-financial measures of subjective performance (Covin et al., 2006). The reasons for the use of subjective performance measures are usually lack of publicly available financial data (Kraus et al., 2012) or fear that there would not be a sufficient number of respondents because the companies are reluctant to share their financial data (Messersmith, Wales, 2013).

This led to the development of a range of objective and subjective performance measures widely accepted among researchers (Baker, Sinkula, 2009; Kraus et al., 2012; Messersmith, Wales, 2013). Studies show that there is a strong positive relationship between subjective and objective performance measures (Stam, Elfring, 2008; Messersmith, Wales, 2013), which supports the validity of subjective performance measures and emphasizes that there is no consensus on appropriate performance measures (Covin et al., 2006; Stam, Elfring, 2008).

Research finds that the value of innovation is only visible if companies link innovation with utility, price and cost condition (Chan Kim, Mauborgne, 2007: 26). Failing to maintain a secure position of innovation and value as described above, technology innovators and market leaders often lay the foundations for the business success of other companies (Chan Kim, Mauborgne, 2007: 26). According to Covin and Slevin (1991), company performance is most often expressed through the dimensions of growth and profitability. Growth is measured as the average annual growth in the number of employees and the average annual growth in sales. Market share is also used as a growth indicator (Wiklund, 1999).

The biggest drivers of success are market orientation, entrepreneurial orientation, and innovativeness. This indicates that innovativeness partly mediates between market orientation and business performance on one hand and entrepreneurial orientation and business performance on the other (Hult et al., 2004). Nybakk (2012) claims that a company's innovation has an independent positive impact on financial results.

In the study Shouyu, (2017) reviewed the related literature from three aspects: the mediating effects between enterprise performance and innovation (Gunday et al., 2011), the moderating effect of firm performance and innovation (Huang, Rice,

2009; Otero-Neira et al., 2009), the direct impact of enterprise performance on innovation (Prajogo, 2006). Mamun (2017) emphasized that micro-entrepreneurs' absorptive capacity and innovativeness have a significant positive effect on business performance. Similarly, Arshad (2018) proved that innovativeness of technology-based SMEs has a significant and positive impact towards business performance. Canh (2019) observed that investment in product innovations and processes are beneficial to business performance in terms of market share. According to Gatautis (2019), the implementation of business model innovations has a positive impact on innovativeness and SMEs performance. Ng et al. (2019) noted that product innovativeness and process innovativeness mediates the relationships among technical competence, entrepreneurial competence and financial performance.

### 3. Research methods

Based on the defined objective, the research tested the following hypothesis: *There is a positive relationship between innovativeness and business performance in Croatian companies.* The research was conducted on the basis of the survey method and these are subjectively measured variables. Regression analysis was used to demonstrate the hypothesis, with innovativeness, product innovation, process innovativeness, business system innovativeness as independent variables and business performance as the dependent variable. Spearman rank correlation was performed for data analysis, along with canonical analysis. Cluster analysis graphically depicts the structure of interrelationships of innovativeness and business performance. Statistical testing is performed at a significance level of 95% ( $\alpha = 0.05$ ). Statistical analysis and data analysis were carried out by STATISTICA 6.1 Stat-Soft inc. 1983-2003.

The originally developed questionnaire was piloted and sent to 10 randomly selected companies from the defined database. The aim was to check the user-friendliness of individual claims from previous studies and to identify potential uncertainties regarding some questions. Afterwards, the questionnaire was modified and revised. Business performance was measured through an enterprise quantitative impact (7 items) by self-assessment of subjective measures, including: product and/or sales/service growth, market share, productivity, overall liquidity, degree of total indebtedness, em-

ployee growth, and flexibility expressed as the company's ability to react to new developments in the environment. 5-point Likert scale was used, ranging from 1 – "very low" to 5 – "very high". Similarly, the qualitative effects (9 items) within the company were measured: employees' self-assessment of fluctuation, absenteeism, commitment, adaptability, number of new customers, number of lost customers, product quality, number of new products, and company image. Again, a 5-point Likert scale was used, ranging from 1 – "strongly disagree" to 5 – "strongly agree". To measure innovativeness, the scale adapted from Nybbak (2012) was used. It consists of 15 items and assesses the subfactors of product innovation, process innovativeness, and business system innovativeness. For this another 5-point Likert scale was used, ranging from 1 – "the claim does not even refer to my company" to 5 – "the claim is completely related to my company". The research was conducted over the last three months of 2016. In the process of data collection, an email was sent to 900 Croatian companies that were actively doing business on the domestic or international market (Šlogar, 2018). The companies were selected from the Register of Business Entities of the Croatian Chamber of Commerce and the Croatian Exporters Register of the Croatian Chamber of Commerce.

The questionnaires were sent in October 2016 to the email addresses of CEOs and executive managers of companies that were included in the sample. In November, a reminder was sent as well as another questionnaire to those who have not previously responded. Within the first three months, 303 (out of 900) questionnaires were properly filled out and sent back, resulting in the response rate of 35.31%. Of 345 collected questionnaires, only 303 were used in the final analysis, while the rest were excluded due to significant amounts of data missing. It should be noted that a huge number of leading Croatian companies returned filled out questionnaires.

#### 3.1 Sample

The basic set from which the sample was chosen consists of registered companies that actively carried out their activities in 2016 on the entire territory of the Republic of Croatia. It is a three-stage stratified random sample that consists of 900 companies (Šlogar, 2018). For the first stratification level, the differential criterion is the divi-

sion of counties in three regions: 1. Northwestern Croatia 2. Central and Eastern (Pannonian) Croatia, and 3. Adriatic Croatia. For the second level of stratification, the differential criterion was the size of the company. The provisions of the Accounting Act<sup>2</sup> (Official Gazette No. 78/15), which prescribes the conditions to be met by the company, were applied: the number of employees, the amount of revenue and the amount of total assets. For the third level of stratification, NKD 2007 (National Classification of Activities<sup>3</sup>) categories were used: target companies belonged to the following areas: C - Processing industry, Section 10-33, and J - Information and Communication, Section 62 - Computer programming, consultancy, and related activities.

#### 4. Research results

The results show that the majority of companies fall under The National Classification of Territorial Units for Statistics<sup>4</sup>, NKPJS – 52.1% are from North-Western Croatia (HR01); 33% are located in Central and Eastern (Pannonian) Croatia (HR02); and the smallest number of companies, 14.7%, are

located in the region of Adriatic Croatia (HR03). The distribution of companies throughout the industrial sector shows that the largest number of companies, 22%, is engaged in the production of metals and metal products, machinery, and equipment; 18% in the production and processing of wood, pulp, and paper; 17% in the production of chemical products, synthetic fibres, rubber, mineral products; 16% in the production of food, beverages, and tobacco products; 11% in financial and other services; 9% in the production of textiles and textile products; and 7% in computer programming.

The results show that in 2015, 44.6% of the surveyed companies generated revenue of less than HRK 60 million, 28% between HRK 60 million and 300 million, and 27.4% of the companies generated revenue of more than HRK 300 million. The results show that in 2015, the total assets of 44.6% of the surveyed companies were less than HRK 30 million, 27.7% of those companies had assets from HRK 30 million to 150 million, and 27.7% had assets of more than HRK 150 million.

**Table 2 Univariate results for the dependent variable business performance, obtained by the multivariate regression analysis**

| Effect                          | df  | Business performance SS | Business performance MS | Business performance F | Business performance p |
|---------------------------------|-----|-------------------------|-------------------------|------------------------|------------------------|
| Intercept                       | 1   | 2897.44                 | 2897.435                | 81.419                 | <0.000001              |
| Product innovation              | 1   | 300.41                  | 300.407                 | 8.442                  | 0.003941               |
| Process innovativeness          | 1   | 2044.97                 | 2044.974                | 57.464                 | <0.000001              |
| Business systems innovativeness | 1   | 552.45                  | 552.453                 | 15.524                 | 0.000101               |
| Error                           | 299 | 10640.46                | 35.587                  |                        |                        |

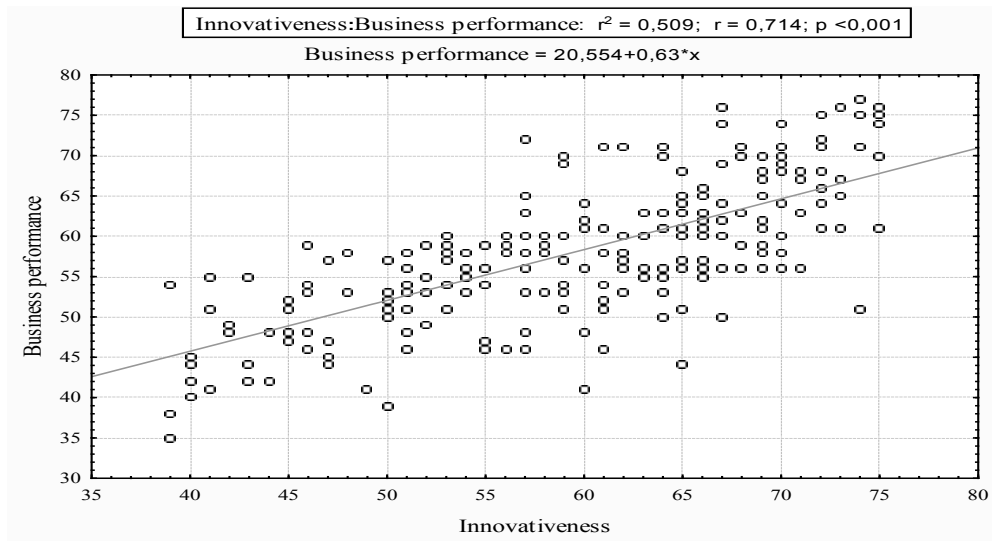
Source: Author's research

In Table 2, univariate results in the multivariate regression analysis show a statistically significant effect of product innovation, process innovativeness and business systems innovativeness ( $p < 0.05$ ).

A statistically significant intercept indicates the existence of other factors that affect the business

performance and innovativeness that are not included in this research. Therefore, it cannot be said that there is a causal link between the observed independent and dependent variables, since the cause may lie in factors not included in this research.

**Figure 1** The impact of innovativeness on business performance

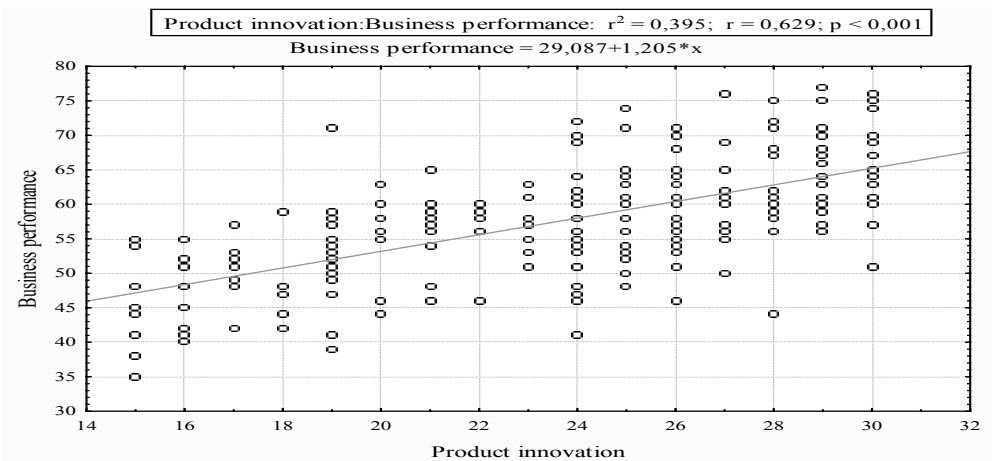


Source: Author's research

Figure 1 shows a regression line with equation, correlation coefficient ( $r = 0.714$ ), coefficient of determination ( $r^2 = 0.509$ ), and associated p-values ( $p < 0.001$ ). The slope of the regression line shows a

positive impact of innovation on business performance and p-value shows that the effect is statistically significant.

**Figure 2** The impact of product innovation on business performance

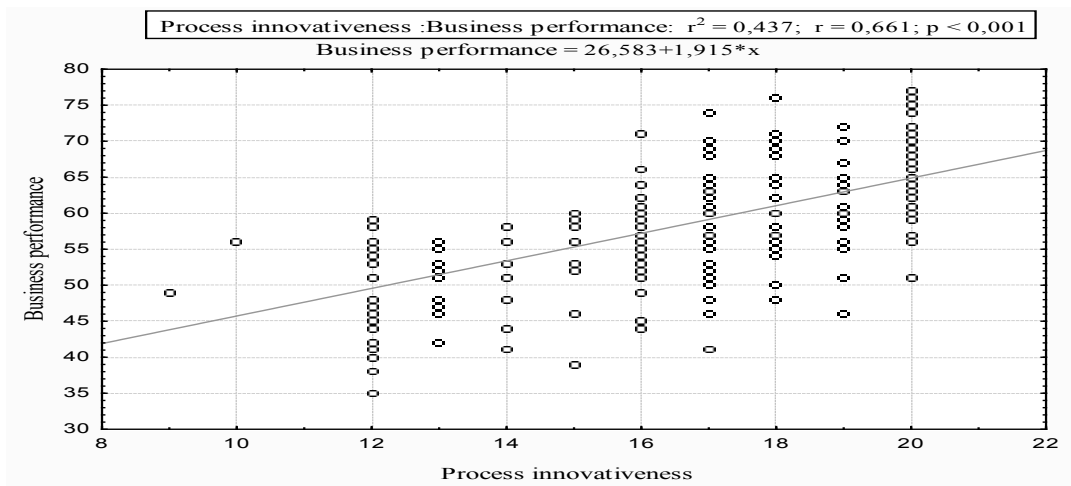


Source: Author's research

Figure 2 shows a regression line with equation, correlation coefficient ( $r = 0.629$ ), coefficient of determination ( $r^2 = 0.395$ ), and associated p-values ( $p < 0.001$ ). The slope of the regression line shows a

positive impact of product innovation on business performance and p-value shows that the effect is statistically significant.

Figure 3 The impact of process innovativeness on business performance

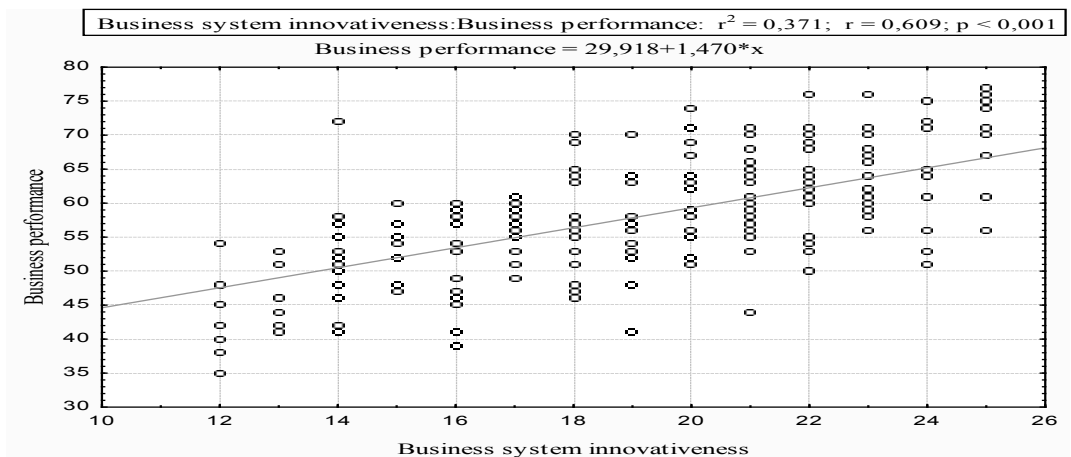


Source: Author's research

Figure 3 shows a regression line with equation, correlation coefficient ( $r = 0.661$ ), coefficient of determination ( $r^2 = 0.437$ ), and associated p-values ( $p < 0.01$ ). The slope of the regression line shows a

positive impact of processes innovation on business performance and p-value shows that the effect is statistically significant.

Figure 4 The effect of business system innovativeness on business performance



Source: Author's research

Figure 4 shows a regression line with equation, correlation coefficient ( $r = 0.609$ ), coefficient of determination ( $r^2 = 0.371$ ), and associated p-values ( $p < 0.001$ ). The slope of the regression line shows

a positive effect of business system innovation on business performance and p-value shows that the effect is statistically significant.



**Table 3 Spearman rank order correlations**

| All correlations are significant at $p < 0.05$ |                      |                      |                     |
|--|----------------------|----------------------|---------------------|
|  | Business Performance | Quantitative effects | Qualitative effects |
| Innovativeness                                 | 0.724                | 0.624                | 0.687               |
| Product innovation                             | 0.633                | 0.513                | 0.633               |
| Process innovativeness                         | 0.700                | 0.608                | 0.641               |
| Business systems innovativeness                | 0.599                | 0.534                | 0.560               |

Source: Author's research

Table 3 shows the Spearman rank correlation, which has established that there is a statistically significant positive relationship between innovativeness and business performance ( $p < 0.05$ ).

It is shown that growth in sales of products and/or services is in a statistically significant positive relationship with product innovation, process innovativeness, and business system innovativeness. Product and/or service sales growth is expected to stimulate innovation. Equally, an increase in market share is in a statistically significant positive relationship with product innovation, process innovativeness, and business system innovativeness. Productivity is also in a statistically positive relationship with product innovation, process innovativeness and business system innovativeness.

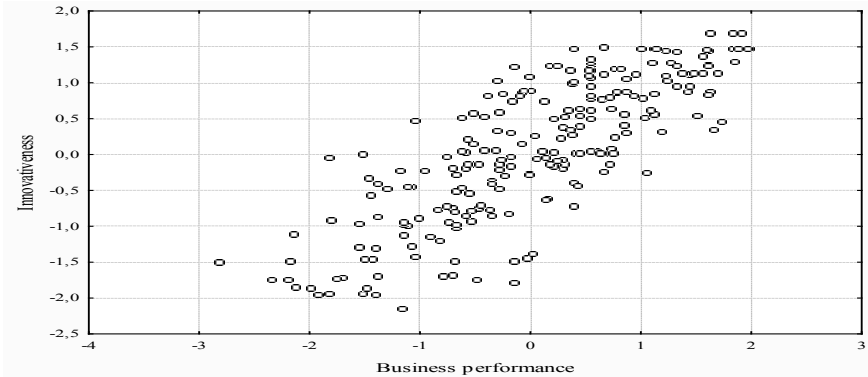
As for a company's general liquidity, there is statistically significant correlation between product innovation, process innovativeness, and business system innovativeness, i.e. with the growth of liquidity, innovativeness is expected to grow. Similarly, in terms of growth in the number of employees in companies there is statistically significant correlation between product innovation, process innovativeness, and business system innovativeness. In line with this growth in the number of employees, growth of all dimensions of innovativeness is expected. As for flexibility (the ability of the company to react to new developments in the environment), there is statistically significant correlation between product innovation, process innovativeness, and business system innovativeness, i.e. growth of flexibility is expected to result in growth of all dimensions of innovativeness.

The results of qualitative indicators of business performance show that in terms of an increase in employee adaptability skills there is statistically significant correlation between product innovation, process innovativeness, and business system innovativeness. Furthermore, in terms of product quality improvement there is statistically significant correlation between dimensions of innovation, i.e. growth of product quality is expected to result in growth of innovativeness, process innovation, and business system innovation. Equally, qualitative indicators of business performance show that in terms of the number of new and improved products there is statistically significant correlation between growth in product innovation, process innovativeness, and business system innovativeness.

Based on the data presented, it can be concluded that the respondents identified particularly important indicators for a positive connection between innovativeness and business performance. Spearman rank correlation has established that there is a statistically significant positive relationship between these two aspects, or in other words – enterprises that are business-oriented are also more innovative.

Canonical analysis shows (Canonical R: 0.808,  $\text{Chi}^2(240)=989.86$ ,  $p < 0.01$ ) statistically significant positive relationship between innovativeness and business performance. Canonical correlation coefficient (R Canonical) is 0.808, which confirms a positive relationship. Statistical significance was tested by Chi-square test ( $\text{Chi}^2$ ) that shows a statistically significant correlation ( $p < 0.01$ ).

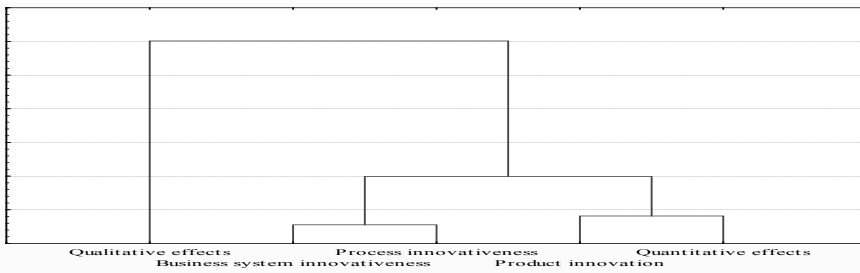
**Figure 5** The link between innovativeness and business performance based on canonical analysis



Source: Author's research

Figure 5 shows a positive relationship between innovativeness and business performance obtained by canonical analysis.

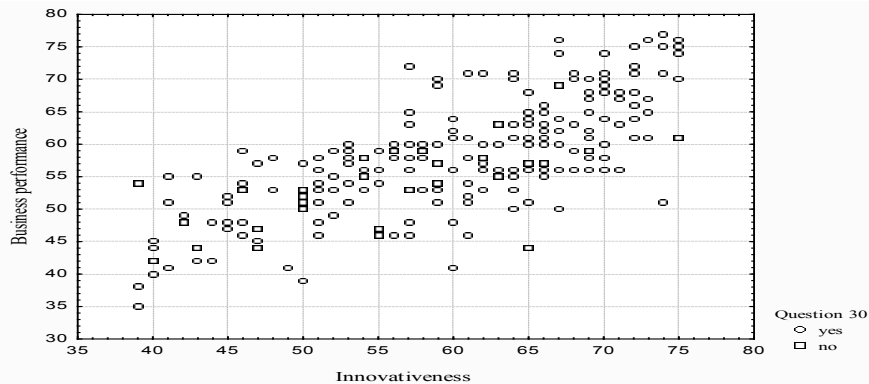
**Figure 6** Dendrogram of relationship between innovativeness and business performance



Source: Author's research

Cluster analysis graphically depicts the structure of connectivity between innovativeness and business performance. Figure 6 shows the connection between individual dimensions of innovativeness and business performance, obtained using the cluster analysis.

**Figure 7** Respondents' answers to innovativeness and business performance



Source: Author's research

Based on the presented results (Figure 7), it can be concluded that the respondents identified particularly important indicators for a positive connection between innovativeness and business performance.

## 5. Discussion and conclusion

Companies need to constantly adapt to changes in the environment and, under the influence of globalization, changes caused by the development of ICT and increasing economic inequalities between innovative and non-innovative companies. The results of this study show there is a positive relationship between innovativeness and business performance. This is consistent with previous studies (Covin et al., 2006; Calantone et al., 2002; Hult et al., 2004; Nybakk, 2012). It can be concluded that the long-term crisis in the Republic of Croatia has been a factor in the weaker business performance of companies both domestically and internationally. The business environment should encourage companies to develop entrepreneurial orientation and thus raise the level of innovativeness and business performance. Although the selection is based on the principle of impartiality in sample making, this sample does not meet the principle of representativeness, so the results of this research may only be considered relevant for companies in the C and J NKD 2007 sectors that are involved in the research and cannot be generalized for all companies. The limitation of the research results stems from the specificity of the selected sample of Croatian companies.

This research has also some limitations that should be discussed. First, it might be important to consider adding relevant mediating or moderating var-

iables such as those related to cultural factors and environment into the analyses. Furthermore, the applied research methodology can also be considered as a research limitation since not all possible determinants are included: e.g. research and development factors, quality factors etc. Even though certain aspects have not been examined, it would seem that a fairly clear picture of the current situation in Croatian companies was attained. That is why companies need to be encouraged to use a proactive approach and raise the level of innovativeness by using all the available resources to search for business opportunities in the market with the aim of increasing company profits. Secondly, all of the data was collected at a specific time, so variables and results are limited to that point in time. At the moment, this is a retrospective research because it was conducted four years ago and based on the results presented in this paper it is not possible to draw conclusions about the current implications of the research.

In conceptual terms, the contribution has been manifested in the development of scientific thinking about the existence of a positive relationship between innovativeness and business performance. Scientific contribution is reflected in the fact that the research was conducted in the Republic of Croatia where there is a lack of such research. This research is important for entrepreneurs as a guideline on whether to invest more in product innovation, process innovativeness, or business system innovativeness with the higher goal of achieving business success. It is suggested that future studies should explore other business sectors to evaluate the results of this research, as well as compare the differences between individual business segments.

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## ENDNOTES

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## UTJECAJ INOVATIVNOSTI NA USPJEŠNOST POSLOVANJA U HRVATSKIM PODUZEĆIMA

### SAŽETAK

Svrha istraživanja je ispitati odnos između inovativnosti i uspješnosti poslovanja u hrvatskim izvoznim poduzećima. U istraživanju je sudjelovalo 303 hrvatska poduzeća u području prerađivačke industrije te informacijske i komunikacijske tehnologije. Istraživanje je provedeno metodom istraživanja tijekom posljednja tri mjeseca 2016. godine. Za potrebe istraživanja koristi se trostupanjski stratificirani slučajni uzorak, a za analizu podataka regresijska analiza. Struktura korelacije između pojedinačnih odgovora i pojedinih skupina odgovora analizirana je kanonskom analizom i klaster analizom. Rezultati pokazuju da postoji pozitivan odnos između inovativnosti i poslovne uspješnosti. Ovo istraživanje ima praktične implikacije za hrvatska poduzeća da povećaju svoju učinkovitost i inovativnost. Empirijski doprinos postignut je definiranjem smjera i utjecaja inovativnosti na poslovne rezultate. Rezultati nude teorijske i upravljačke implikacije. U kontekstu ovoga istraživanja, vjerojatno je da inovativnost i poslovni učinak utječu na inovativne aktivnosti poduzeća, što se može pozitivno odraziti na stvaranje i održavanje konkurentske prednosti na tržištu.

**Ključne riječi:** inovativnost, inovativnost proizvoda, inovativnost procesa, uspješnost poslovanja, hrvatska poduzeća