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## THE IMPACT OF INNOVATIVENESS, ENTREPRENEURIAL, MARKET, AND LEARNING ORIENTATION ON BUSINESS PERFORMANCE

*The purpose of this research was to establish whether there is a positive impact between entrepreneurial orientation and innovativeness, market orientation and innovativeness, and learning orientation and innovativeness in companies. The research also sought to define the specific elements in the orientations that impact innovativeness and business performance. The data was collected by a survey of a sample of 303 Croatian companies. The results of multiple regression showed that entrepreneurial orientation has a positive impact on innovativeness and business performance. Similarly, this research indicated that market orientation has a positive impact on innovativeness and business performance. As proposed in the hypothesis, this study found that learning orientation has a positive impact on innovativeness and business success. After the completion of this research, both practical and theoretical contribution are provided.*

**Keywords:** *Innovativeness, entrepreneurial orientation, market orientation, learning orientation, business performance*

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## 1. INTRODUCTION

New value systems are being created in which knowledge, information, innovation, quality, and flexibility of operations have become important factors in staying on the international market (Šlogar, 2018). Innovativeness refers to a company's ability to introduce new processes or ideas into the organization. It is precisely through innovativeness that companies develop solutions to business challenges that provide the foundation for market success. Starting from the role of innovativeness in achieving company success and using theoretical knowledge of the entrepreneurial, market, and learning orientation, there was the need to prove the hypothesis of an impact between the three specific orientation, innovativeness and business performance of Croatian companies. Based on the theory, entrepreneurial orientation, learning orientation and market orientation may be associated with strong innovation. However, in most studies they are not interrelated but are analyzed as individual research problems.

The following research questions were developed in this study: What is the empirical association between innovativeness, market orientation, entrepreneurial orientation, learning orientation and business performance in Croatian companies? This research has the following objectives: 1. to identify the impact between entrepreneurial orientation on innovativeness and business performance; 2. to examine the impact of market orientation on innovativeness and business performance; 3. to examine the impact of learning orientation on innovativeness and business performance; 4. to diagnose the impact of innovativeness on business performance. Entrepreneurial orientation, market orientation and learning orientation should be applied in companies from the beginning of their growth with the aim of developing an innovation process and learning culture. It is suggested that other business sectors are examined in future research in order to assess the results of this research. The findings can help businesses to better understand what kind of orientation should be encouraged to increase the level of innovativeness among exporters.

The contribution of this research is manifested in the development of scientific thought about the existence of a statistically significant impact between entrepreneurial orientation, market orientation, and learning orientation, innovativeness, and business performance. The conclusions of the theoretical and empirical research confirm the importance of the three orientations and innovativeness in creating value that will contribute to the development of the company and the overall economy. This study is organized as follows: First, literature review on the entrepreneurial, market and learning orientation, including innovativeness and business performance. Then the description of the research methods as well as the findings of the research are presented. Last, the results are discussed leading to theoretical and practical implications.

## 2. LITERATURE REVIEW

### 2.1. *Innovativeness in companies*

According to the integration of Schumpeterian entrepreneurship, innovative entrepreneurs are involved in the creation and application of knowledge about the introduction of new technologies and products (Schumpeter, 1934). Likewise, they extract ideas and resources from their innovation system and bring dynamism and change to the economy (Malerba and McKelvey, 2020). Hurley and Hult (1998) point out that innovativeness is an aspect of a company's corporate culture and openness to new ideas. Innovativeness is associated with the ability to introduce new ideas, products and processes into the company (Hult, Hurley and Knight, 2004). In this paper, a company's innovativeness is defined as the tendency of companies to create and/or adopt new products, manufacturing processes and business systems (Nybakk, 2012). In the study Calantone et al., (2002) it is also suggested that innovativeness has become a prerequisite for ensuring competitive advantage of companies in a market. Furthermore, results show that there is no positive relationship between the company age and innovativeness, the number of employees and innovativeness, or between the level of education and innovativeness in Croatian companies (Šlogar and Bezić, 2019a).

### 2.2. *Entrepreneurial orientation in companies*

The phenomenon of entrepreneurial orientation as a driving force of entrepreneurial activity has become the main focus of the entrepreneurship related literature (Covin and Wales, 2012). Entrepreneurial orientation refers to "the processes, practices, and decision-making activities that lead to new entry" (Lumpkin and Dess, 1996, p. 136). There are three dimensions of entrepreneurial orientation according to Miller (1983): innovativeness, risk-taking and proactiveness. Since most of the studies use three dimensions, Covin and Slevin (1989, 1991), and Lumpkin and Dess (1996) introduced additional two dimensions: competitive aggressiveness and autonomy. Autonomy is defined "as independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it through to completion" (Lumpkin and Dess, 2001, p. 431). This component is important for entrepreneurial activity, especially when it comes to entering new markets (Lumpkin and Dess, 1996).

The Ardyan (2015) study results show that product innovativeness success and entrepreneurial orientation significantly affect business performance. On the other

hand, entrepreneurial orientation has no significant impact on product innovativeness effect. Wales, Gupta and Mousa, (2013a) stress that more than 150 studies of entrepreneurial orientation have been conducted, implying that the concept of EO is accepted in the literature on entrepreneurship. Covin and Lumpkin (2011) identified the exploration of alternative composite dimensions as a high-potential research area. Similarly, Ejdys (2016) researched the relation between entrepreneurial orientation and innovativeness and confirmed that proactiveness has a significant positive effect on improving innovativeness. Nikraftar and Momeni (2017) found that entrepreneurial orientation has no effect on performance. Tajeddini and Mueller (2018), found the positive effect of entrepreneurial orientation on the financial results of Swiss companies competing in a highly dynamic environment. Moreover, Guzmán, Santos and Barroso (2019) observed that entrepreneurial orientation directly affects the operations of cooperatives in the Basque Country (Spain).

Likewise, in Hiung, Tehseen, Sajilan and Memari (2019) entrepreneurial innovativeness was found as a mediator between entrepreneurial orientation and business growth. According to Zbierowski (2019), there is an indirect impact of high-performance factors on the dimensions of entrepreneurial orientation mediated by a positive deviation. Šlogar, Šokčević and Jerin (2018) state that there is a positive and statistically significant association between proactivity, innovativeness and a company's business performance. The study of Głodowska, Maciejewski and Wach, (2019) suggest that entrepreneurial orientation plays a significant role in the use of knowledge in the internationalization of Polish companies. Furthermore, Raats and Krakauer (2020) state that competitive aggressiveness has been replaced as a part of creativity because firms have made insufficient use of the autonomy dimension.

Based on these studies the following hypothesis was tested:

H1: Entrepreneurial orientation has a positive impact on innovativeness and business performance.

### ***2.3. Market orientation in companies***

The concept of market orientation has been popularized over the last few decades (Narver and Slater, 1990; Kohli and Jaworski, 1990). Narver and Slater (1990, p. 21) defined market orientation as “the organizational culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business.” The three dimensions of market orientation by Narver and Slater (1990) can be defined

in the following way. First, customer orientation is “the sufficient understanding of one’s target buyer to be able to create superior value for them continuously” (Narver and Slater, 1990, p. 21). Competitor orientation means that a seller understands the short-term strengths and weaknesses and long-term capabilities and strategies of both the key current and the key potential competitors (Narver and Slater, 1990, pp. 21-22). The third component is interfunctional coordination – the coordinated utilization of company resources in creating superior value for target customers (Narver and Slater, 1990, p. 22). It was found that market orientation has a significant positive effect on innovativeness and it appears to be the most important determinant of business performance (Hult et al., 2004). It was also found that market orientation has a direct positive effect on organizational innovativeness (Hult et al., 2004; Rhee, Park and Lee, 2010). The author of this research focuses on the three dimensions of Narver and Slater (1990).

Numerous studies confirm a positive effect between market orientation, innovativeness and business performance (Grbac and First, 2011; Carrizo-Moreira and Silva, 2013; Cai, Liu, Zhu and Deng, 2015; Jangl, 2015; Didonet, Díaz and Machado, 2016; Milfelner, Dlačić, Snoj and Selinšek, 2019; Presutti and Odorici, 2019). It was ascertained that market orientation has a significant positive effect on innovativeness and it appears to be the most important determinant of business performance (Hult, et al., 2004). It was also established that market orientation has a direct positive effect on organizational innovativeness (Rhee, Park and Lee, 2010). Meta-analysis about empirical studies on market orientation showed that market orientation influences innovativeness, quality and customer loyalty (Kirca, Jayachandran and Bearden, 2005). According to Indriyani, Suprpto and Calista, (2019), market orientation has a significant and positive influence on innovativeness among traditional entrepreneurs. Zehir, Karaboga, Karaboga and Uzmez (2019) indicated that market orientation has a significant direct effect on entrepreneurial strategic posture and innovation performance.

Based on these studies the following hypothesis was tested:

H2: Market orientation has a positive impact on innovativeness and business performance.

#### ***2.4. Learning orientation in companies***

Learning orientation emphasizes the organizational values of knowledge acquisition, while innovativeness focuses on the need for an organization to change (Hult et al., 2004; Covin, Green and Slevin, 2006; Wang, 2008). If learning

orientation is considered an input, then the innovativeness of the company is the output of learning effort. Most empirical research on the relationship between learning orientation and innovativeness has been carried out on large companies (Keskin, 2006). There are four dimensions of learning orientation according to Calantone et al. (2002): commitment to learning, shared vision, open-mindedness and intraorganizational knowledge sharing. In the study Calantone et al. (2002) the authors showed a correlation between learning orientation, innovation and a company's performance. The Rhee et.al. (2010) study results show that learning orientation significantly affects innovativeness, and innovativeness has a significant impact on business performance.

In the study of Ma'atoofi and Tajeddini (2010), the results show that there is a significant positive link between organizational dedication to learning, openness, shared vision and the innovativeness of small businesses. In the study of Keskin (2006), the results show that learning orientation has a positive impact on the company's innovation; a firm's learning orientation mediates in the relationship between a firm's market orientation and an innovative company; and a firm's market orientation indirectly affects the company's performance through innovation and learning. Nybakk (2012) proved that a learning orientation has a positive impact on financial performance and innovativeness in a sample of Norwegian manufacturing companies. Real, Roldán and Leal, (2014) reveal that the relationship between organizational learning and entrepreneurial orientation is more intense for the group of large firms than for SMEs. Rodriguez, Doloreux and Shearmur, (2015) point out that the innovation success of the company depends on its ability to effectively integrate and coordinate a wide range of external sources of knowledge. In the study by Nikraftar and Momeni (2017) the results show that learning orientation and market orientation have positive effects on performance.

Similarly, Hiung et al., (2019) proved the significant and positive impacts of learning competency as well as the impact of entrepreneurial orientation on innovativeness. According to Zehir and Zehir (2019) it was established that a firm's innovativeness has a mediating effect on the commitment to learning and on firm's performance. Imamoglu, Ince, Turkcan and Fidan (2019) confirm the effects of learning orientation, absorptive capacity and innovativeness on a firm's performance. The Stelmaszczyk (2020) study results use the example of a Polish company specializing in the production of glass to show that organizational learning orientation has a positive effect on the absorption capacity and on the innovation capacity. Overall, it can be concluded that there is a lack of applicable research, given that learning orientation has a positive impact on the company's innovativeness.

Based on these studies the next hypothesis was tested:

H3: Learning orientation has a positive impact on innovativeness and on business performance.

### *2.5. Business performance in companies*

The link between company innovativeness and performance has not been sufficiently tested (Calantone et al., 2002). In addition, private companies are often reluctant to reveal their financial information (Messersmith and Wales, 2013). The use of archival financial performance measures is considerably lower than the use of the specified subjective performance measures (Stam and Elfring, 2008; Baker and Sinkula, 2009; Kraus et al., 2012). It turns out that out of 52 entrepreneurial orientation studies, only 7 studies used archival financial measures to measure performance (Rauch, Wiklund, Lumpkin and Frese, 2009). In a meta-analysis study by Rauch et al. (2009), a significant positive relationship between entrepreneurial orientation and business performance was indicated. Jaworski and Kohli (1993) discovered a significant positive relationship between market orientation and subjective business performance measures. Šlogar and Bezić (2019b) found that there is a positive relationship between innovativeness and exports in Croatian companies. In this research, subjective measures of performance are being used since they are widely accepted by various previously mentioned researchers (Lumpkin and Dess, 2001; Baker and Sinkula, 2009; Kraus et al., 2012).

## **3. RESEARCH METHODS**

The survey was used to collect empirical data. The research model includes the following independent variables: entrepreneurial orientation, market orientation, learning orientation and the following dependent variables: innovativeness and business performance. The influence of independent variables on dependent variables was analyzed by multivariate regression analysis. Multivariate statistical significance testing shows the total score of the multivariate regression and the statistical significance of the impact of the independent variables on both observed dependent variables. Statistical analysis and data analysis was carried out by STATISTICA 6.1 StatSoft inc. 1983-2003.

Table 1.

## POWER ANALYSIS, SAMPLE SIZE CALCULATION

	Value
Independent Variables (k)	14
C2 (Null P2)	0.80
P2	0.72
Type I Error Rate (Alpha)	0.05
Power Goal	0.90
Required Sample Size (N)	295

Source: Author of the research

In table 1 the required size of a representative sample was determined by the method used for determining the required sample size in the context of Power Analysis Sample size calculation for Squared Multiple Correlation. The required sample size was determined on the basis of common assumptions for statistical testing: significance level is 95% ( $\alpha = 0.05$ ) and statistical power 90%. For the calculations, the greatest number of independent variables was used (14 of them) and the assessment of the expected multivariate correlations was between 0.7 and 0.8. With these assumptions, the minimum required sample size was 295. This sample size was sufficient for all statistical tests to be carried out.

The basic set from which the sample was chosen consists of registered companies that were actively operating in 2016 throughout the Republic of Croatia. It is a three-stage stratified convenience sample that consists of 900 companies. On the first level of a stratified convenience sample of enterprises the counties were organized into three regions as a differential criterion: 1. Northwestern Croatia 2. Central and Eastern (Panonian) Croatia and 3. Adriatic Croatia. The second level criterion was the company size as laid in the Accounting Act (Official Gazette No. 78/15), which prescribes the number of employees, the amount of revenue and the amount of total assets. The following areas are in the third level of stratification, NKD 2007 (National Classification of Activities): C – Processing industry, Section 10-33 and J – Information and Communication, Section 62 – Computer programming, consultancy and related activities.

To measure entrepreneurial orientation, the scale adapted from Covin and Slevin (1989) was used that consists of 14 items and assesses the subfactors of innovativeness, risk-taking and proactiveness, and the scale adapted from Lumpkin and Dess (1996). Additionally, 5-point Likert scale was used. To measure market



orientation, the scale adapted from Narver and Slater (1990) was used which consists of 15 items and assesses the subfactors of customer orientation, competitor orientation and interfunctional coordination. A 5-point Likert scale was used here. To measure learning orientation, a scale adapted from Calantone et al. (2002) was used with 17 items, which assesses the commitment to learning, shared vision, open-mindedness and intra-organisational knowledge sharing. A 5-point Likert scale was used here as well. To measure the innovativeness, a scale adapted from Nybbak (2012) was used, with 15 items and assesses the subfactors of product innovation, process innovativeness and business system innovativeness. A 5-point Likert scale was also used here. Business performance is measured by the quantitative effects including: product and/or sales/service growth, market share, productivity, overall liquidity, degree of total indebtedness, employee growth and flexibility company's. A 5-point Likert scale was used. Similarly, the qualitative effects within the company were measured: employees self-assessment of fluctuation, absenteeism, commitment, adaptability, number of new customers, the number of lost customers, product quality, the number of new products and company image. A 5-point Likert scale was used.

The survey was conducted from October to December 2016. In the process of data collection, e-mails were sent to 900 Croatian companies selected from the Register of Business Entities of the Croatian Chamber of Commerce. The questionnaires were sent to the e-mail addresses of CEOs and executive managers of the companies. Within the first three months, 303 out of 900 questionnaires were properly filled out and sent back resulting in a response rate of 35.31%. Of 345 collected questionnaires, only 303 were used in the final analysis, while the rest, which had significant amounts of data missing, were excluded.

#### 4. RESEARCH RESULTS

In this chapter, the analysis of the survey results will be presented. Complex data will be analyzed with a table or graph.

*Table 2.*

##### DISTRIBUTION OF COMPANIES ACCORDING TO REGIONS – HR

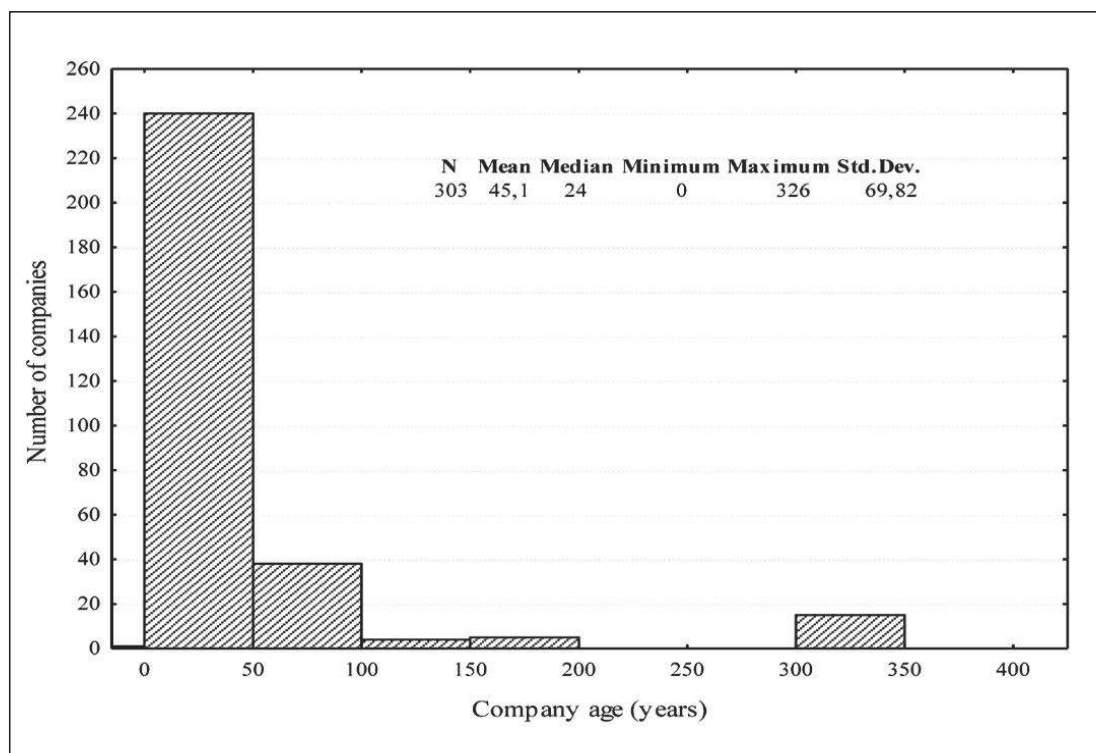
<b>Regions – HR</b>	<b>Small companies</b>	<b>Medium sized enterprises</b>	<b>Large companies</b>	<b>Total</b>
HR 01 – Northwestern Croatia	64	50	44	158
%	21.1%	16.5%	14.5%	52.1%
HR 02 – Central and Eastern (Pannonian) Croatia	40	23	37	100
%	13.2%	7.6%	12.2%	33.0%
HR 03 – Adriatic Croatia	31	11	3	45
%	10.2%	3.6%	0.9%	14.7%
<b>Total</b>	<b>135</b>	<b>84</b>	<b>84</b>	<b>303</b>
	44.5%	27.7%	27.7%	

Source: Author of the research

In Table 2 the results show that the largest number of companies 52.1% operate in the Northwest Croatia HR01; 33% of them are located in the Central and Eastern (Pannonian) Croatia HR02; while the smallest number of companies, 14.7% of them, have their headquarters in Adriatic Croatia HR03.

Figure 1.

### DISTRIBUTION OF COMPANIES ACCORDING TO AGE



Source: Author of the research

Figure 1 shows the 303 companies in the survey, the average age is 45 years and the median was 24 years. Also, 50% of companies surveyed are younger than 24 years, the other 50% are older than 24 years. The oldest company was founded 326 years ago.

Table 3.

**DISTRIBUTION OF RESPONDENTS BY EDUCATION AND FUNCTION  
IN THE COMPANY**

<b>Function in the company</b>	<b>Secondary education</b>	<b>High School</b>	<b>University Degree</b>	<b>MSc/ PhD</b>	<b>Total</b>
1 – President of the board / director of the company	9	7	36	1	53
%	2.97%	2.31%	11.88%	0.33%	17.49%
2 – Director of research and development/marketing	6	9	28	17	60
%	1.98%	2.97%	9.24%	5.61%	19.80%
3 – Director of production / logistics	6	2	40	9	57
%	1.98%	0.66%	13.20%	2.97%	18.81%
4 – Director of finance / accounting	2	4	32	5	43
%	0.66%	1.32%	10.56%	1.65%	14.19%
5 – Director of other organizational sectors	11	10	63	6	90
%	3.63%	3.30%	20.79%	1.98%	29.70%
<b>Total</b>	<b>34</b>	<b>32</b>	<b>199</b>	<b>38</b>	<b>303</b>
%	11.22%	10.56%	65.68%	12.54%	

Source: Author of the research

Table 3 results show that 65.68% of respondents have a university degree; only 12.54% of respondents said they had completed MSc and/or PhD; 10.56% have completed high school; and 11.22% only secondary education. Most respondents hold the position of Director/Head of other organizational sectors, 29.70%; followed by Director/Head of Research and Development/Marketing, 19.80%; Director/Production Manager/Logistics, 18.81%; Chairman/CEO, 17, 49%; and the director/ head of finance/accounting, 14.19%.

Table 4.

RESULTS OBTAINED BY MULTIVARIATE REGRESSION ANALYSIS

Effect	Test	Value	F	Effect df	Error df	P
Intercept	Wilks	0.919	13.054	2	298	<0.001
Entrepreneurial orientation	Wilks	0.614	93.639	2	298	<0.001
Market orientation	Wilks	0.892	18.065	2	298	<0.001
Learning orientation	Wilks	0.915	13.878	2	298	<0.001

Source: Author of the research

In Table 4 the results of the multivariate regression analysis show a statistically significant effect of entrepreneurial orientation, market orientation and learning orientation on business performance and 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.

Univariate results for each dependent variable show a statistically significant influence of independent variables on each dependent variable.

Table 5.

UNIVARIATE RESULTS FOR 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	401.43	401.428	10.429	0.001
Entrepreneurial orientation	1	864.06	864.061	22.449	<0.001
Market orientation	1	368.29	368.286	9.568	0.002
Learning orientation	1	611.50	611.499	15.887	<0.001
Error	299	11508.03	38.488		
Total	302	22630.32			

Source: Author of the research

In Table 5 the results of multivariate regression analysis show a statistically significant effect of entrepreneurial orientation, market orientation and learning orientation on business performance ( $p < 0.05$ ). A statistically significant intercept indicates the existence of other factors that affect the business performance which are not included in this research. Therefore, it cannot be said that there is a causal link between the observed independent variables and business performance, since the cause may also encompass the factors not included in this research.

*Table 6.*

UNIVARIATE RESULTS FOR DEPENDENT VARIABLE  
“INNOVATIVENESS“, OBTAINED BY MULTIVARIATE REGRESSION  
ANALYSIS

<b>Effect</b>	<b>Innovativeness SS</b>	<b>Innovativeness MS</b>	<b>Innovativeness F</b>	<b>Innovativeness p</b>
Intercept	19.449	19.4487	7.3421	0.007
Entrepreneurial orientation	497.490	497.4901	187.8071	<0.001
Market orientation	91.875	91.8751	34.6837	<0.001
Learning orientation	10.387	10.387	3.9212	0.049
Error	792.034	2.6489		
Total	2594.713			

Source: Author of the research

In Table 6 univariate results in the multivariate regression analysis show a statistically significant effect of entrepreneurial orientation, market orientation and learning orientation on innovativeness ( $p < 0.05$ ). A statistically significant intercept points to the existence of other factors that affect innovativeness, which are not included in this study. Therefore it cannot be argued that there is a causal link between the observed independent variables and innovativeness, since the cause may lie in factors not included in this study.

Table 7.

RESULTS OBTAINED BY MULTIVARIATE REGRESSION ANALYSIS

Effect	Test	Value	F	Effect Df	Error df	P
Intercept	Wilks	0.863	47.326	1	298	<0.001
Innovativeness	Wilks	0.870	44.454	1	298	<0.001
Proactiveness	Wilks	0.956	13.723	1	298	<0.001
Risk-taking	Wilks	0.994	1.699	1	298	0.193
Autonomy	Wilks	0.999	0.164	1	298	0.686

Source: Author of the research

In Table 7 the multivariate regression analysis show a statistically significant impact of innovativeness and proactiveness on business performance and innovativeness ( $p < 0.05$ ), while the impact of risk-taking and autonomy is not statistically significant ( $p > 0.05$ ).

Table 8.

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	1848.04	1848.041	47.326	<0.001
Innovativeness	1	1735.90	1735.904	44.454	<0.001
Proactiveness	1	535.88	535.876	13.723	<0.001
Risk-taking	1	66.36	66.362	1.699	0.193
Autonomy	1	6.40	6.400	0.164	0.686
Error	298	11636.61	39.049		
Total	302	22630.32			

Source: Author of the research

In Table 8 univariate results in the multivariate regression analysis show a statistically significant impact of innovativeness and proactiveness on business performance ( $p < 0.05$ ), while the impact of risk-taking and autonomy is not statistically significant ( $p > 0.05$ ).

*Table 9.*

UNIVARIATE RESULTS FOR THE DEPENDENT VARIABLE  
“INNOVATIVENESS” OBTAINED BY THE MULTIVARIATE  
REGRESSION ANALYSIS

Effect	Innovativeness SS	Innovativeness MS	Innovativeness F	Innovativeness p
Intercept	0.000	0.000		
Innovativeness	973.609	973.609	44.454	<0.001
Proactiveness	0.000	0.000	13.723	<0.001
Risk-taking	0.000	0.000	1.699	0.193
Autonomy	0.000	0.000	0.164	0.686
Error	-0.000	-0.000		
Total	2594.713			

Source: Author of the research

In Table 9 the results of the univariate multivariate regression analysis show a statistically significant effect of innovativeness and proactivity on innovativeness ( $p < 0.05$ ), while the effect of risk-taking and autonomy is not statistically significant ( $p > 0.05$ ).

*Table 10.*

RESULTS OBTAINED BY MULTIVARIATE REGRESSION ANALYSIS

Effect	Test	Value	F	Effect df	Error df	P
Intercept	Wilks	0.854	25.544	2	298	<0.001
Customer orientation	Wilks	0.869	22.534	2	298	<0.001
Competitor orientation	Wilks	0.957	6.762	2	298	0.001
Interfunctional coordination	Wilks	0.982	2.768	2	298	0.064

Source: Author of the research



In Table 10 the multivariate regression analysis show a statistically significant impact of consumer orientation and competitor orientation on business performance and innovativeness ( $p < 0.05$ ), while the impact of interfunctional coordination is not statistically significant ( $p > 0.05$ ).

*Table 11.*

UNIVARIATE RESULTS FOR THE DEPENDENT VARIABLE  
 “BUSINESS PERFORMANCE” OBTAINED BY MULTIVARIATE  
 REGRESSION ANALYSIS

<b>Effect</b>	<b>df</b>	<b>Business performance SS</b>	<b>Business performance MS</b>	<b>Business performance F</b>	<b>Business performance p</b>
Intercept	1	2261.58	2261.576	50.591	<0.001
Customer orientation	1	1180.28	1180.280	26.403	<0.001
Competitor orientation	1	331.79	331.791	7.422	0.007
Interfunctional coordination	1	122.96	122.964	2.751	0.098
Error	299	13366.25	44.703		
Total	302	22630.32			

Source: Author of the research

Table 11 univariate results in the multivariate regression analysis show a statistically significant impact of consumer orientation and competitor orientation on business performance ( $p < 0.05$ ), while the impact of interfunctional coordination on business performance was not statistically significant ( $p > 0.05$ ).

Table 12.

**UNIVARIATE RESULTS FOR THE DEPENDENT VARIABLE  
“INNOVATIVENESS” OBTAINED BY MULTIVARIATE  
REGRESSION ANALYSIS**

<b>Effect</b>	<b>Innovativeness SS</b>	<b>Innovativeness MS</b>	<b>Innovativeness F</b>	<b>Innovativeness p</b>
Intercept	19.615	19.615	4.583	0.033
Customer orientation	156.666	156.666	36.609	<0.001
Competitor orientation	48.656	48.656	11.370	0.001
Interfunctional coordination	20.782	20.782	4.856	0.028
Error	1279.568	4.279		
Total	2594.713			

Source: Author of the research

In Table 12 the univariate results in the multivariate regression analysis show a statistically significant impact of consumer orientation, competitor orientation and interfunctional coordination on innovativeness ( $p < 0.05$ ).

Table 13.

**RESULTS OBTAINED BY MULTIVARIATE REGRESSION ANALYSIS**

<b>Effect</b>	<b>Test</b>	<b>Value</b>	<b>F</b>	<b>Effect df</b>	<b>Error df</b>	<b>p</b>
Intercept	Wilks	0.862	23.784	2	297	<0.001
Commitment to learning	Wilks	0.880	20.257	2	297	<0.001
Shared vision	Wilks	0.898	16.812	2	297	<0.001
Open-mindedness	Wilks	0.966	5.194	2	297	0.006
Intra-organisational knowledge sharing	Wilks	1.000	0.011	2	297	0.989

Source: Author of the research

Table 13 multivariate regression analysis show a statistically significant effect of commitment to learning, shared vision and open-mindedness on business performance and innovativeness ( $p < 0.05$ ), while the impact of knowledge sharing within the company is not statistically significant ( $p > 0.05$ ).

*Table 14.*

UNIVARIATE RESULTS FOR THE DEPENDENT VARIABLE  
 “BUSINESS PERFORMANCE” OBTAINED BY MULTIVARIATE  
 REGRESSION ANALYSIS

Effect	df	Business performance SS	Business performance MS	Business performance F	Business performance p
Intercept	1	2034.49	2034.495	47.485	<0.001
Commitment to learning	1	1063.91	1063.910	24.831	<0.001
Shared vision	1	1311.69	1311.687	30.615	<0.001
Open-mindedness	1	46.34	46.340	1.082	0.299
Intra-organisational knowledge sharing	1	0.01	0.013	0.000	0.986
Error	298	12767.89	42.845		
Total	302	22630.32			

Source: Author of the research

In Table 14 univariate results in the multivariate regression analysis show a statistically significant effect of commitment to learning and shared vision on the business performance ( $p < 0.05$ ), while the impact of open-mindedness and knowledge sharing within the company on innovativeness is not statistically significant ( $p > 0.05$ ).

Table 15.

**UNIVARIATE RESULTS FOR THE DEPENDENT VARIABLE  
“INNOVATIVENESS” OBTAINED BY MULTIVARIATE  
REGRESSION ANALYSIS**

<b>Effect</b>	<b>Innovativeness SS</b>	<b>Innovativeness MS</b>	<b>Innovativeness F</b>	<b>Innovativeness p</b>
Intercept	77.978	77.978	14.316	<0.001
Commitment to learning	189.538	189.538	34.797	<0.001
Shared vision	7.171	7.171	1.316	0.252
Open-mindedness	54.952	54.952	10.089	0.002
Intra-organisational knowledge sharing	0.105	0.105	0.019	0.889
Error	1623.185	5.447		
Total	2594.713			

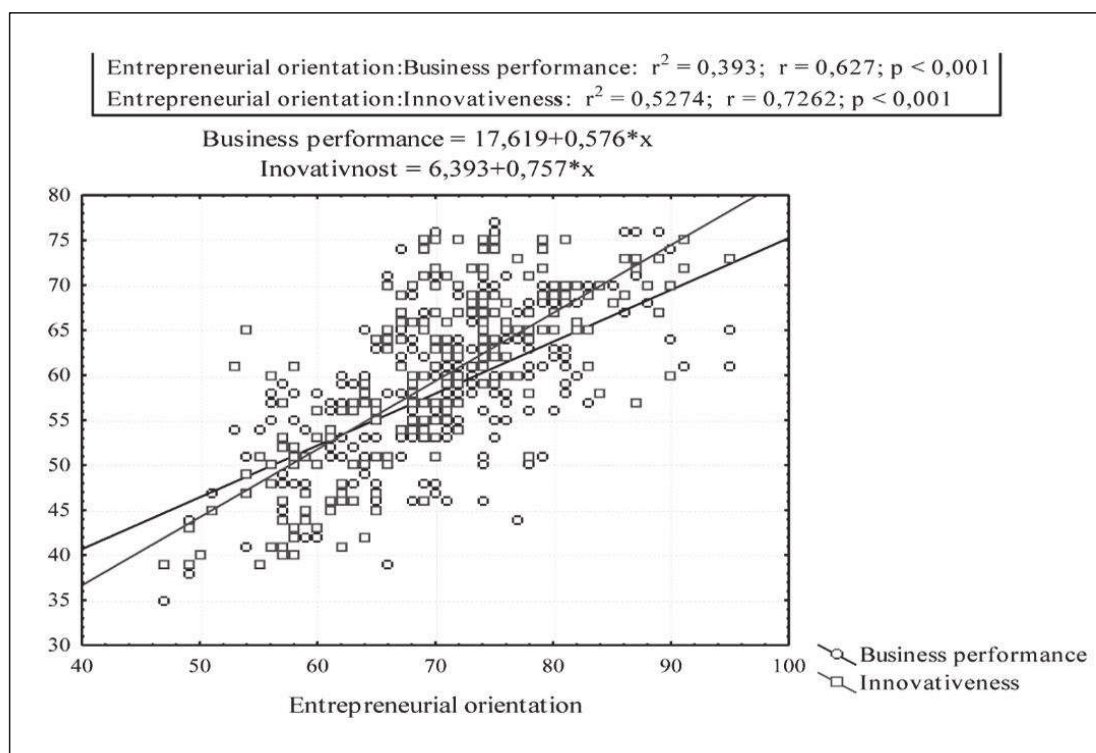
Source: Author of the research

In Table 15 univariate results in the multivariate regression analysis show a statistically significant effect of commitment to learning and open-mindedness on innovativeness ( $p < 0.05$ ), while the impact of shared vision and knowledge sharing within the company on business performance is not statistically significant ( $p > 0.05$ ).

Figure 2, 3 and 4 show the regression lines along with line equations, Pearson correlation coefficient ( $r$ ), the coefficient of determination ( $r^2$ ), and associated p-value.

Figure 2.

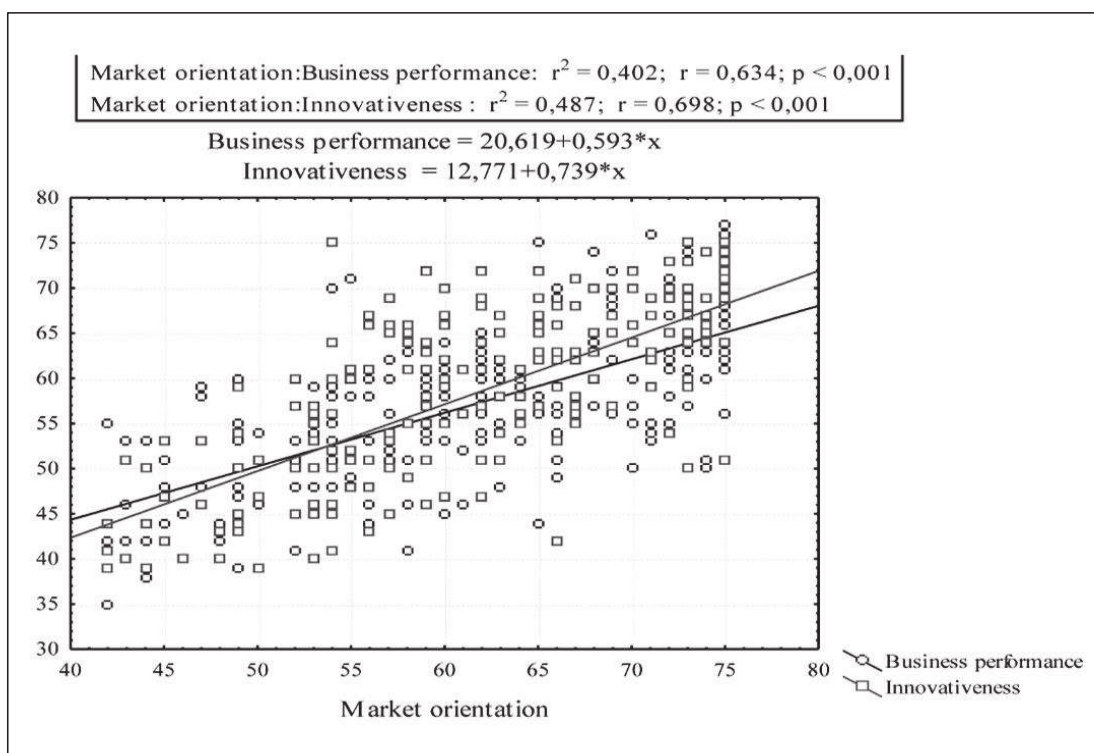
### EFFECT OF ENTREPRENEURIAL ORIENTATION ON BUSINESS PERFORMANCE AND INNOVATIVENESS



Source: Author of the research

In Figure 2 the direction of regression lines shows a positive influence of entrepreneurial orientation on business performance and innovativeness, and corresponding statistics show that the effect is statistically significant.

Figure 3.

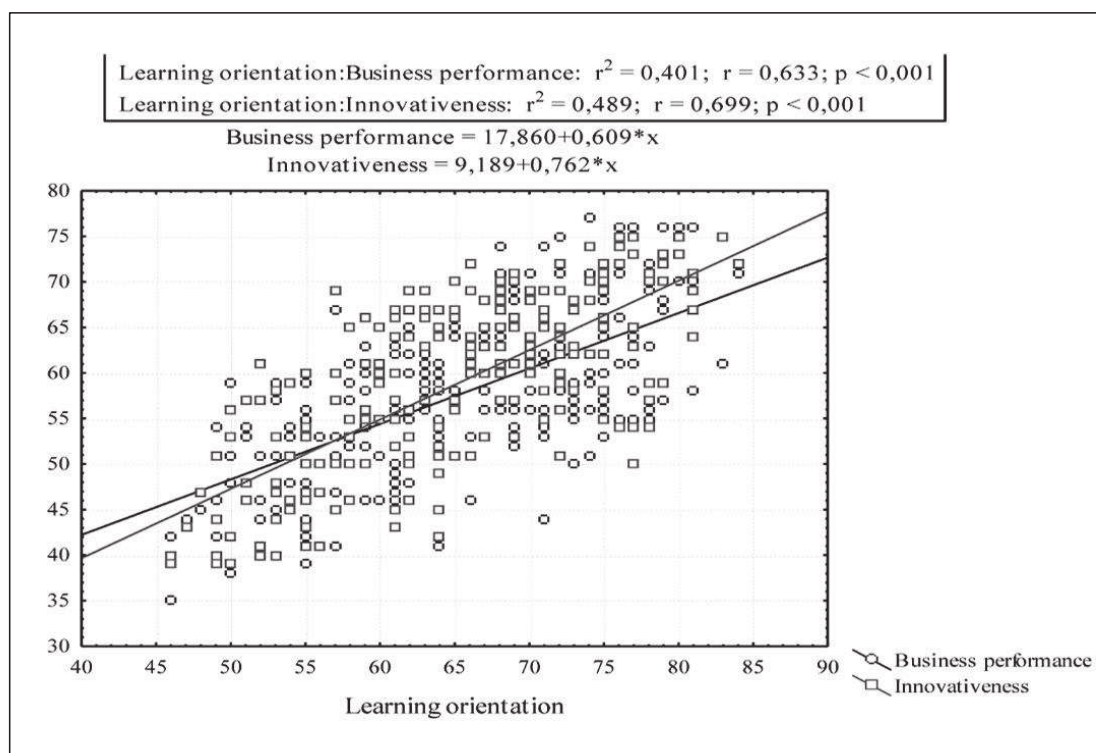
EFFECT OF MARKET ORIENTATION ON BUSINESS  
PERFORMANCE AND INNOVATIVENESS

Source: Author of the research

In Figure 3 the direction of regression lines shows a positive influence of market orientation on business performance and innovativeness, and corresponding statistics show that the effect is statistically significant.

Figure 4.

### EFFECT OF LEARNING ORIENTATION ON BUSINESS PERFORMANCE AND INNOVATIVENESS



Source: Author of the research

In Figure 4 the direction of regression lines shows a positive influence of learning orientation on business performance and innovativeness, and corresponding statistics show that the effect is statistically significant. These results fully confirm the hypothesis since it is statistically significant at  $p < 0.01$  level.

Table 16.

## SUMMARY OF HYPOTHESES TESTING

Hypotheses	Result
<b>H0:</b> There is a positive influence between the entrepreneurial orientation, market orientation, learning orientation and innovativeness and business performance in Croatian companies.	Supported
<b>H1:</b> Entrepreneurial orientation has a positive impact on innovativeness and business performance.	Supported
<b>H2:</b> Market orientation has a positive impact on innovativeness and business performance.	Supported
<b>H3:</b> Learning orientation has a positive impact on innovativeness and business performance.	Supported

## 5. DISCUSSION

This research identifies the factors involved in innovativeness in Croatian companies and outlines how the conditions for making better strategic decisions can be created. In response to the main goal of the research multivariate regression analysis shows that there is a statistically significant influence of market orientation, entrepreneurial orientation, and learning orientation on innovativeness and business performance. Regression analysis shows a positive direction of this influence. A statistically significant intercept of the regression line indicates the existence of other factors that affect the innovativeness and business performance which are not included in this research. Therefore, it cannot be argued that there is a cause-effect relationship between observed independent and dependent variables, as the cause may also be in non-included factors. The result is consistent with the results of other studies in the literature (Covin and Slevin, 1989; Narver and Slater, 1990; Calantone, et al., 2002; Nybakk, 2012). The conclusions of theoretical and empirical research affirm the relevance of the three orientations and innovativeness in creating value and achieving satisfactory solutions that will contribute to the development of the company and the overall economy.

All three orientations require a proactive approach and the use of all available resources to actively search for business opportunities in the market with the aim of increasing a company's exports. Although this study is able to achieve its research objectives, several limitations are noted. First, although the selection is based on the principle of impartiality in sample making, such a 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 included in the research and cannot be generalized for all companies. Second, the research was conducted in the period in which Croatian economy was slowly exiting from the crisis, and the timing certainly influenced certain answers in the questionnaire. Third, 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. Furthermore, it is not possible to draw conclusions about the “current” implications of the research whose results are presented in this paper, since the results are based on the analysis of data collected in 2016. Despite the above-mentioned empirical research constraints, the validity of the theory is confirmed.

The scientific contribution of this research is manifested in the development of scientific thought about the existence of a positive impact between entrepreneurial orientation, market orientation and learning orientation, innovativeness, and business performance. Furthermore, the contribution is reflected in the fact that the research was conducted in the Republic of Croatia where there is a lack of such research. The methodological contribution of this research has been achieved by developing a new instrument and by developing and testing a new model on Croatian companies.

## 6. CONCLUSION

This paper fills a significant gap in the understanding of innovativeness in the manufacturing sector and in understanding the nature of the relationship between innovation and the key variables. It can be concluded that the long-term crisis in the Republic of Croatia has been a factor in the poorer business performance of companies both domestically and internationally. Companies, therefore, need to develop innovative products, processes, and systems to achieve the best business results. Encouraging innovative activities in companies should be achieved by linking universities, public and private research and development institutes, on the one side, and entrepreneurs on the other, by putting scientific research capacities into the function of economic development. Such cooperation should lead to a basic prerequisite for creating an innovative company capacity. Additionally, the research should contribute to the results that will be of practical use to all companies that can use new knowledge in planning to participate in international markets and in making quality decisions. The results of the empirical research should be an incentive for similar research in the future. It is suggested that future studies

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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#### UTJECAJ INOVATIVNOSTI, PODUZETNIČKE, TRŽIŠNE I ORIJENTACIJE NA UČENJE NA USPJEŠNOST PODUZEĆA

##### Sažetak

Svrha istraživanja bila je utvrditi postoji li pozitivan utjecaj između poduzetničke orijentacije i inovativnosti, tržišne orijentacije i inovativnosti te orijentacije na učenje i inovativnosti u poduzećima. Istraživanjem se također nastojalo definirati specifične elemente u usmjerenjima koja utječu na inovativnost i uspješnost poslovanja. Podaci su prikupljeni istraživanjem uzorka od 303 hrvatska poduzeća. Rezultati višestruke regresije pokazali su da poduzetnička orijentacija pozitivno utječe na inovativnost i poslovne rezultate. Slično tome, ovo istraživanje pokazalo je da tržišna orijentacija pozitivno utječe na inovativnost i uspješnost poslovanja. Kao što je predloženo u hipotezi, ovo je istraživanje pokazalo da orijentacija na učenje ima pozitivan utjecaj na inovativnost i poslovni uspjeh. Nakon završetka ovog istraživanja postoji praktični i teorijski doprinos.

**Ključne riječi:** Inovativnost, poduzetnička orijentacija, tržišna orijentacija, orijentacija u učenju, uspješnost poslovanja