

# THE INTER-RELATIONS BETWEEN ENTREPRENEURIAL ORIENTATION COMPONENTS AND THEIR IMPACT ON THE PERFORMANCE OF CROATIAN SMALL AND MEDIUM ENTERPRISES

Bojan Morić Milovanović\*

Institute of Public Finance  
Zagreb, Croatia

DOI: 10.7906/indecs.20.4.6  
Regular article

*Received:* 24 January 2021.  
*Accepted:* 17 February 2022.

## ABSTRACT

Association of entrepreneurial orientation with performance, viewed as both a unidimensional and multidimensional concept, has been widely researched, especially in the small and medium enterprises context. However, there is a gap in the literature related to how the components of entrepreneurial orientation are inter-related and how their intricacies drive small firm performance. Rather than looking into configurations between entrepreneurial orientation and various external factors, this article investigates the different configurations within the entrepreneurial orientation components and how they affect performance. This article builds on the work by Putniņš, T.J. and Sauka, A. “Why does entrepreneurial orientation affect company performance?” who used financial economics theory to explore the direct relationship between risk-taking and performance. They used innovativeness as a moderator and proactiveness as mediators of the relationship between risk-taking and performance. This article uses a configurational approach to investigate the effect of individual roles of each of entrepreneurial orientation’s dimensions and their interactions on small firm performance. Using survey data from 202 Croatian small and medium-sized firms, results reveal that entrepreneurial orientation and all of its three components are positively associated with small firm performance. Relationships between innovativeness and proactiveness with small firm performance are significant when controlling for risk-taking; therefore, they do not obtain this relationship through their association with risk-taking. Proactiveness does not have an indirect, positive relationship with small firm performance via risk-taking as a mediator. Innovativeness is a moderator that further strengthens the positive relationship between risk-taking and performance.

## KEY WORDS

risk-taking, innovativeness, proactiveness, performance, Croatia

## CLASSIFICATION

JEL: L26, M13

\*Corresponding author, *η*: [bojan.moric@ijf.hr](mailto:bojan.moric@ijf.hr); +385 1 4886 444;  
Institut za javne financije, Smičiklasova 21, HR – 10 000 Zagreb, Croatia

## **INTRODUCTION**

Entrepreneurial orientation (EO) as an academic concept and its association with firm performance has been intensely researched over the last decades [2-7]. Many researchers follow the conceptual framework laid down by [8] and [9] stating that EO covarying dimensions are critical for EO to exist, thus one strain of the literature is focused on observing EO as a unidimensional concept and examining various inter-relations with firm performance [10-12]. On the other hand, the other strain of academics [13-18] follow [4] conceptual framework who relaxed the assumption of covariance among EO dimensions and investigated entrepreneurially oriented firm as a context-dependent. Therefore, these academics viewed EO as a more complex concept and examined the relationships between EO dimensions and firm performance in various contextual settings [19-26].

Although the relationship between EO and performance has been widely studied all across the globe, researchers cannot still state with certainty that the relationship mentioned above is completely understood. Many authors found that the relationship has positive connotations [5, 6, 27]; however, many authors have not found the relationship positive [28-30]. Moreover, many authors even looked in more nuanced aspects of the relationship and determined that the EO – performance relationship is more complex and even non-linear [10, 18, 31-36, 43].

As stated earlier, EO as a concept has been looked upon as either a unidimensional or a multidimensional concept. Studies that adopted the multidimensional concept of EO explored the effects of certain EO dimensions [4, 5, 38], independent effects of each EO dimension [34, 39], unique effects in certain industries [16, 40, 41], and non-linear relations with performance [33, 34, 42, 43]. Moreover, many studies have highlighted that EO (including EO dimensions) – performance relationship is context-specific and that the relationship needs to be observed in interaction with various contextual factors [23, 31, 42, 44-46].

However, not many studies have explored how EO dimensions interact while related to firm performance. As far as authors' knowledge, only [1] have performed such an investigation where they determined on the sample of 1020 Estonian, Latvian and Lithuanian small and medium-sized enterprises (SMEs) that “all three components positively contribute to performance, but in different ways. Risk-taking has a direct positive relationship with performance, the relationship between risk-taking and performance is conditional on the level of innovativeness, and that proactiveness contributes to performance through its positive effect on the level of risk-taking” [1; p.713]. Therefore, this study aims to replicate the model developed by (1) within a small developed economy context, such as Croatia, and thus provide further validation to their findings. This research aims to investigate the inter-relations between each EO dimension and determine their effect on small firm performance. To be more precise, the research effort will be focused on identifying which EO dimensions are direct drivers of small firm performance and which EO dimensions have a moderating or mediating relationship with small firm performance. The research approach follows [1; p.712] a configurational approach that looks for “a configurational model internally within the dimensions of EO rather than between EO and external factors.”

This study starts with the literature review related to the concept of EO, its dimensions, and their relationship with small firm performance, where four hypotheses were developed based on examining their direct, mediating, and moderating effect. Afterward, the research method was discussed, followed by hypotheses testing and discussion of the results based on the data obtained from small and medium-sized enterprises in Croatia. The article concludes with the theoretical implications, implications for management, limitations, and implications for future research.

## LITERATURE REVIEW AND HYPOTHESES

Entrepreneurial orientation (EO) has been a focus in academic research for decades, and the literature on investigating EO is growing rapidly. Many researchers and studies covered EO and its implications on various aspects of performance [6, 47-51] and within various contexts [24, 52, 53]. However, despite such a growing number of publications related to exploring the EO phenomenon, there are still academics [1, 54, 55] who believe that research around EO should return to a more conceptual discussion to understand the concept itself and its implications better.

Therefore, even though the EO has been widely covered in the forms of thorough reviews of the EO literature [7, 18, 55-58], examining the effects of various moderators and mediators [59-65], investigating effects of different contingencies [12, 66-68], and even observing different contextual circumstances [69-72] that govern the relationship between EO and firm performance, however, literature is very limited on studies related to investigating the interactions between the EO dimensions [1, 38, 73].

Therefore, this study aims to fill in this gap in the literature by replicating the [1] approach of examining interrelations between the EO dimensions and investigating if and how each of EO dimensions could have a mediating or moderating effect on the relationship between another dimension and firm performance. To be more precise, as per [1] proposition), risk-taking affects the firm performance directly and positively, innovativeness has a moderating influence on the relationship between risk-taking and firm performance, while proactiveness has an indirect (mediating) positive effect on firm performance.

Risk-taking is one of the central themes in the literature on entrepreneurship [74-76], especially when trying to explain entrepreneurial strategies and entrepreneurial mindset [77]. In the context of EO and following [79; p.923] definition, risk-taking refers to “the degree to which managers are willing to make large and risky resource commitments – i.e., those which have a reasonable chance of costly failures”. Moreover, risk-taking can be explained by [78; p.152] definition, stating that “risk-taking refers to a firm’s willingness to seize a venture opportunity even though it does not know whether the venture will be successful and to act boldly without knowing the consequences”. Following [1] hypothesis development approach, the relationship between risk-taking and firm performance can be explained through the tradeoff between risk and return, which is a fundamental principle in the financial economics theory. The basic assumption is that for entrepreneurs to take on more risk, i.e. more risky/uncertain actions/strategies/ventures, would require higher compensation (better performance) than for those actions/strategies/ventures that are viewed as being less risky/uncertain. Therefore, the following hypothesis is proposed:

**H<sub>1</sub>:** *Risk-taking has a direct positive relationship with firm performance.*

Similar to the previously provided explanation for the development of hypothesis H<sub>1</sub>, [1] consider that comparable mechanism is adequate for explaining the development of the second hypothesis H<sub>2</sub>, where the relationship between venture-level strategy and firm performance should also be viewed through its association with risk/uncertainty. More precisely, since risk-taking should have a direct and positive effect on firm performance, the other two components of EO (firm strategy), innovativeness and proactiveness, should not have a direct, but rather an indirect effect on firm performance, i.e., they should affect firm performance via their association with risk-taking. However, such clarification is contingent on two assumptions: (a) the firm can self-determine the level of their EO, and (b) there is market competition among entrepreneurs. Thus, the following hypothesis is proposed:

**H<sub>2</sub>:** *Proactiveness and innovativeness that have a relationship with firm performance obtain this relationship through their association with risk-taking.*

Proactiveness, as a dimension of EO, can be viewed as a first-mover advantage originating from anticipating and pursuing new opportunities and by participating in emerging markets [4] as shaping the environment opposite to reacting to the environment by introducing new products, technologies, or administrative processes [79], or as firms desire to be pioneers in their respective industries [6]. Therefore, following the provided definition, intuitively, proactive behavior involves certain levels of risk-taking. Stated differently, proactive leaders act on more or less complete or accurate information, meaning they are willing to act on certain calculated risk levels incorporated in their decision-making and strategy formulating process. Therefore, a certain level of risk will be required for a firm to develop new market opportunities proactively. Such proactive actions/strategies will increase firm performance; thus, proactiveness affects firm performance via risk-taking. In their research, several authors [34, 78, 80, 81] argue that firms first proactively identify new opportunities, followed by innovative and risk-taking behaviors to seize these opportunities. Therefore, the following hypothesis is proposed:

**H3:** *Proactiveness has an indirect, positive relationship with firm performance via risk-taking as a mediator.*

Lumpkin and Dess [4, 78] view innovativeness as the firm's tendency to embrace new technologies or practices which could lead to new and creative ideas, novelty, and experimentation to bring new opportunities, novel solutions, new technologies, and products or services. [79] reflect that innovativeness can come in different forms, such as technological innovation manifested in R&D and engineering, product-market innovativeness manifested in new market niches, product design, advertising, and promotion. Therefore, since innovativeness represents a 'process' of creating something new, it entails a certain amount of risk-taking, which should bring value to the firm in increased performance. Many authors have found empirical evidence that innovativeness positively affects firm performance [82-85]. Authors in [1] argue that the resource-based view (RBV) of the firm provides theoretical reasoning why innovativeness could be a moderator to the risk-taking – firm performance relationship. Due to the limited resources, the firm could be pressured to engage in innovative risk-taking actions/strategies to satisfy demands of both innovative initiatives and risky endeavors, since as per RBV, "risk-taking is a highly resource-absorbing orientation because it involves committing large volumes of resources to endeavors with uncertain outcomes" [1; p.719]. Therefore, the following hypothesis is proposed:

**H4:** *The positive relationship between risk-taking and firm performance is strengthened by innovativeness.*

## **RESEARCH METHOD**

### **SAMPLE**

Database of the Croatian Financial Agency (Fina) has been used to obtain the list of the observed companies. According to the European Union definition of small and medium-sized enterprises, a random sample of companies has been pulled out of Fina's database. The data sample consisted of 2 000 randomly selected small and medium-sized enterprises contacted in December 2019 and January 2020, From the data sample, 202 firms correctly replied to the email questionnaire, constituting a response rate of 10,1 %. The questionnaire was sent to firm owners or firm's top management email addresses, where 73 % of the respondents were either firm owners or directors, while 27 % were managers.

Moreover, almost 80 % had more than 7 years of working experience with the firm. Of 202 firms that replied to the email questionnaire, 145 were small (71,78 %), while 57 were medium-sized firms (28,22 %). Considering the industry, 66 firms operate in the manufacturing sector (32,67 %), while 136 firms operate in the service sector (67,32 %).

## VARIABLES, MEASURES, AND ANALYSIS

Performance as a multidimensional concept has been measured via a modified instrument developed by [86] based on a 7-point Likert-type scale questions concerning indicators related to sales growth rate, operating profit, profit to sales ratio, market share, market development, and new product development. The performance score has a mean of 3,74, a standard deviation of 1,42, a range of 6,86, and Cronbach's  $\alpha$  value of ,86.

EO was measured using 7-point Likert-type scale questions assessing innovativeness, proactiveness, and risk-taking [9]. The entrepreneurial orientation score has a mean of 4,33, a standard deviation of 1,21, a range of 5,78, and a Cronbach's  $\alpha$  value of 0,77. Innovativeness score has a mean of 4,59, a standard deviation of 1,51, and a Cronbach's  $\alpha$  value of 0,83, proactiveness score has a mean of 4,64, a standard deviation of 1,41, and a Cronbach's  $\alpha$  value of 0,79., while the risk-taking score has a mean of 3,78, a standard deviation of 1,46, and a Cronbach's  $\alpha$  value of 0,84.

Firm size and industry (sector) were used as controls to provide further robustness to our results. Firm size was measured according to the European Union definition of small and medium-sized enterprises, where micro firms are classified as the ones with less than 10 employees, small firms with 10-49 employees, and medium-sized firms with 50-250 employees. Regarding the industry or sector in which the firm operates, classification has been done whether the firm's main line of business was manufacturing or service.

The sequence of regression analysis that iteratively arrived at the model that best fit the data was used to test the interrelations between dimensions of entrepreneurial orientation and determine their direct and indirect effects on performance. All variables have been mean-centered to improve the interpretability of results, where Durbin-Watson statistic, maximum Cook's distance, and variance inflation factors (VIF) were well below critical values. A non-response analysis and common method bias analysis have been performed, and it can be confirmed that it is unlikely to be a severe concern in this study.

## RESULTS

As shown in Table 1, the correlation between entrepreneurial orientation and performance is 0,357, while each of the dimensions of entrepreneurial orientation has a positive correlation with performance. The correlation coefficient between innovativeness and performance is 0,407, risk-taking and performance are 0,171, while proactiveness and performance are 0,408, [1] in their article refer to the work of [11] based on a meta-analysis on 51 studies showed that overall correlation between entrepreneurial orientation and performance is 0,24. On the other hand, all three dimensions of entrepreneurial orientation are positively correlated, where their correlations ranged from 0,48 to 0,65. Moreover, all three dimensions were positively correlated with an entrepreneurial orientation where their correlations range from 0,75 to 0,82.

**Table 1.** Means, SDs, and correlations.

	Mean	SD	1	2	3	4	5	6	7
<b>1. Firm size</b>	2,00	0,75	1,00						
<b>2. Industry</b>	1,67	0,47	0,103	1,00					
<b>3. EO</b>	4,29	1,04	0,044	0,090	1,00				
<b>4. Innovativeness</b>	4,59	1,50	0,085	0,054	0,776**	1,00			
<b>5. Risk-taking</b>	3,78	1,46	0,009	0,074	0,759**	0,486**	1,00		
<b>6. Proactiveness</b>	4,64	1,40	0,073	0,026	0,823**	0,656**	0,480**	1,00	
<b>7. Performance</b>	4,81	1,14	0,108	0,003	0,357**	0,407**	0,171*	0,408**	1,00

\*significant with  $p < 0,05$

\*\*significant with  $p < 0,01$  (2-tailed)

Tables 2 and 3 present the relationships between firm performance and EO dimensions.

**Model 1** shows a statistically significant positive direct effect of entrepreneurial orientation on performance ( $\beta = 0,385, p < 0,01$ ), controlling for firm size and industry. **Model 2** provides the separate effect of each EO's dimensions on performance while controlling for the other dimensions of entrepreneurial orientation, where innovativeness ( $\beta = 0,203, p < 0,01$ ) and proactiveness ( $\beta = 0,218, p < 0,01$ ) have a statistically significant positive direct effect on performance, while risk-taking does not. However, when we remove innovativeness and proactiveness from the model and only observe the relationship between risk-taking and performance as in model 6, results reveal a statistically significant positive direct effect of risk-taking ( $\beta = 0,132, p < 0,05$ ) on performance. Therefore, we can state there is enough evidence to support hypothesis H<sub>1</sub>.

Same as in **model 6**, when not controlling for risk-taking, both innovativeness ( $\beta = 0,30, p < 0,01$ ) and proactiveness ( $\beta = 0,325, p < 0,01$ ) have a statistically significant positive and unconditional effect on performance, as observed in **models 5 and 7**. Furthermore, **model 2** showed that relationships between innovativeness and proactiveness with performance are significant when controlling for risk-taking; we can conclude there is not enough evidence to support hypothesis H<sub>2</sub>.

Mediating relationship between proactiveness, as a dimension of entrepreneurial orientation, and performance was tested by the same approach used by [1] and advocated by [87]. In the first step, **model 7** provides us with the value of the total effect (coefficient *c*), which is 0,325. In the second step, **model 9** gives us the value of coefficient *a*, 0,499. In the third step, the value of the coefficient *b* is calculated, which is -0,025. Based on the obtained coefficients, we can determine the proportion of indirect effect or mediation channel ( $a \times b = -0,012$ ) in the total effect ( $c = 0,325$ ), where the mediation channel accounts for 3,8 % of the total effect of proactiveness on performance ( $(a \times b)/c$ ) and is statistically non-significant. Calculated both as per the bootstrap method (0 is included in the interval between LLCI and ULCI) and as per the Sobel test (t-statistic of -0,44, standard error of 0,02, and p-value of 0,6598). Therefore, we can conclude there is not enough evidence to support hypothesis H<sub>3</sub>, meaning that proactiveness does not have an indirect, positive relationship with performance via risk-taking as a mediator.

Moderating relationships between dimensions of entrepreneurial orientation were tested via moderated linear regression analysis, an approach used by [6], where model 3 and model 4 build on model 2 by adding two-way and three-way interactions of innovativeness and proactiveness with risk-taking. **Model 3** explains for additional 4,2 % of the variation in performance ( $p < 0,01$ ), while model 4 explains for another 0,02 % of the variation ( $p < 0,01$ ). The results show statistically significant positive effect of the interaction between innovativeness and risk-taking with performance in both model 3 ( $\beta = 0,157, p < 0,01$ ), and in **Model 4** ( $\beta = 0,196, p < 0,01$ ). There is no evidence of moderating the relationship between proactiveness and risk-taking with performance, nor the three-way interaction effect between innovativeness, proactiveness, and risk-taking on performance. Therefore, the conclusion is there is enough evidence to support hypothesis H<sub>4</sub>. To further explore the moderating effect of innovativeness on the relationship between risk-taking and performance, figure 1 plots the relationship between risk-taking and performance for three levels of innovativeness – low, average, and high, where low level is defined as one standard deviation below the mean, average as the mean, while the high level is defined as one standard deviation above the mean level of innovativeness.

Slopes in Figure 1 provide additional support for accepting hypothesis H<sub>4</sub>, showing that higher levels of risk-taking and innovativeness are rewarded with higher performance.

**Table 2.** Relationships between firm performance and EO dimensions (Models 1-5).

Model	Performance				
	1	2	3	4	5
<b>Direct effects</b>					
EO	0,385*** (0,72)				
Innovativeness		0,203*** (0,066)	-0,401** (0,195)	-0,427** (0,198)	0,303*** (0,049)
Risk-taking		-0,070 (,058)	-0,301* (0,178)	-0,495 (0,306)	
Proactiveness		0,218*** (0,070)	0,638*** (0,197)	0,610*** (0,200)	
<b>Moderation effects</b>					
Risk*Innov			0,157*** (0,048)	0,196*** (0,070)	
Risk*Proactive			-0,107** (0,049)	-0,071 (0,068)	
Risk*Innov*Proactive				-0,007 (0,009)	
<b>Controls</b>					
Size	0,228 (0,168)	0,166 (0,162)	0,102 (0,160)	0,098 (0,160)	0,183 (0,165)
Industry (sector)	0,048 (0,162)	0,013 (0,155)	-0,006 (0,153)	-0,008 (0,153)	0,027 (0,158)
R-squared	0,369***	0,460***	0,503***	0,505***	0,414***
Adj. R-squared	0,136***	0,211***	0,253***	0,255***	0,171***

\*significant with  $p < 0,1$ \*\*significant with  $p < 0,05$ \*\*\*significant with  $p < 0,01$ **Table 3.** Relationships between firm performance and EO dimensions, for Models 6-10 (continued on p.389).

Model	6 Performance	7 Performance	8 Risk- taking	9 Risk- taking	10 Risk- taking
<b>Direct effects</b>					
EO					
Innovativeness			0,471*** (0,060)		0,290*** (0,078)
Risk-taking	0,132** (0,054)				
Proactiveness		0,325*** (0,052)		0,499*** (0,065)	0,296*** (0,083)
<b>Moderation effects</b>					
Risk*Innov					
Risk*Proactive					
Risk*Innov*Proactive					
<b>Controls</b>					
Size	0,269 (0,177)	0,199 (0,165)	-0,089 (0,203)	-0,064 (0,203)	-0,105 (0,197)

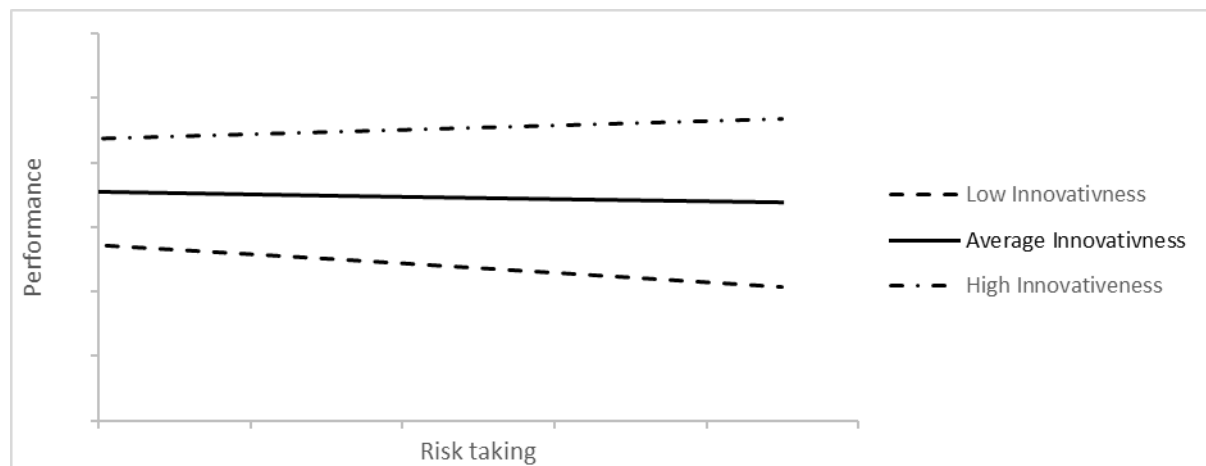
**Table 3.** Relationships between firm performance and EO dimensions, for Models 6-10 (continuation from p.388).

Model	6 Performance	7 Performance	8 Risk-taking	9 Risk-taking	10 Risk-taking
Industry (sector)	-0,003 (0,170)	-0,001 (0,158)	-0,139 (0,194)	-0,184 (0,195)	-0,146 (0,189)
R-squared	0,201**	0,415***	0,489***	0,484***	0,534***
Adj. R-squared	0,040**	0,172***	0,239***	0,235***	0,285***

\*significant with  $p < 0,1$

\*\*significant with  $p < 0,05$

\*\*\*significant with  $p < 0,01$



**Figure 1.** Risk-taking – performance relationship at different levels of innovativeness.

## DISCUSSION

The relationship between EO and firm performance has been widely researched; however, a gap in the literature has been identified concerning how the inter-relatedness of EO dimensions drives firm performance. Since this study aimed to investigate different configurations within the EO dimensions, this study tried to replicate the research of [1] who used financial economics theory to explore the direct relationship between risk-taking and performance, where they used innovativeness as a moderator and proactiveness as a mediator of the relationship mentioned above. Using the data obtained from 202 Croatian small and medium-sized firms, results reveal that EO, viewed as a unidimensional concept, and its all three dimensions, have a positive direct effect on small firm performance. Relationships between innovativeness and proactiveness with small firm performance are significant when controlling for risk-taking; therefore, they do not obtain this relationship through their association with risk-taking. Moreover, the three-way interaction effect between innovativeness, proactiveness, and risk-taking on firm performance is not supported. Proactiveness does not have an indirect, positive relationship with small firm performance via risk-taking as a mediator. The positive relationship between risk-taking and firm performance is strengthened by innovativeness as a moderator.

Therefore, it can be concluded that the empirical results obtained in the context of Croatia do not fully confirm the results obtained by [1]. To be more precise, although the direct effect of risk-taking on performance and moderating role of innovativeness on the risk-taking – firm performance relationship has been supported, however, mediating role of proactiveness and that innovativeness and proactiveness obtain a relationship with firm performance through risk-taking have not. Therefore, this research has not proved that each EO dimension



positively affects firm performance but for different reasons, as stipulated by [1] which suggests that further validations of their model are required.

## RESEARCH IMPLICATIONS

This study further validated EO as a construct since EO was viewed both as a unidimensional and multidimensional construct. All three dimensions of EO demonstrated a positive and direct relationship with firm performance. Moreover, this study confirmed that risk-taking is rewarded since higher levels of risk-taking initiatives/strategies increase the firm's performance. Furthermore, this study also confirmed that those risk-taking initiatives/strategies associated with higher levels of innovativeness yield higher performance than those risk-taking initiatives/strategies associated with lower levels of innovativeness.

Apart from observing the relationships above, it would be useful in future research to explore relationships between inter-relatedness of EO dimensions with other elements of strategy and determine how these relationships affect firm performance. Is the nature of these relationships characterized by direct, moderating, or mediating effects. Since the relationships between proactiveness and innovativeness and firm performance were conceptualized that they obtain such a relationship through their association with risk-taking, and were based on the assumptions that the firm possesses the ability to self-determine the level of its EO and that there is a market competition among entrepreneurs, future research should focus on exploring various contextual factors which could influence these relationships. Moreover, future research could investigate other factors that could potentially moderate and mediate the risk-taking – firm performance relationship. Although most of the academic research is focused on investigating various effects EO has on firm performance; however EO could also be related to other outcomes, not just performance; therefore, future research could examine the underlying notions between EO and other variables, which could provide further clarification of EO's role within the entrepreneurship process. Also, since many studies have confirmed the non-linear relationship between EO and firm performance, future studies could look into the non-linear effects between EO and firm performance dimensions.

This research study has certain limitations. Like any other academic article, this section will provide a brief overview of the main limitations that the reader needs to bear in mind while reading this article. Since this study focused only on Croatian SMEs, a sample of 202 small and medium-sized firms could be considered a relatively small sample size, especially when considering the response rate of 10 %. Moreover, since the research context was grounded in a small, developed economy such as Croatia, future research should be done in the wider regional context investigating the effects in other countries of Southeast Europe so that multicounty analysis could increase the validity of the currently obtained results and further test if context-specific aspects influence the observed relationships. Another limitation is concerned with the information gathering process since the unit of analysis was a single firm. The online questionnaire was filled out by only one firm representative making the results highly susceptible to the subjectivity of the respondents. Thus, future research should try to gather information from other sources within a firm and preferably use objective secondary data, such as financial and management reports, to triangulate the data. Furthermore, this study used [9] scale for determining EO within the firm. Future research could use other scales to measure EO to validate the results further and maybe offer some additional interesting insights.

## CONCLUSION

This research has been conducted on 2 000 Croatian SMEs and analyzed 202 small and medium-sized firms. Results revealed a positive relationship between EO, observed both as a

uni-dimensional and multidimensional concept, and firm performance. More specifically, innovativeness, proactiveness, and risk-taking positively affect firm performance. Results also reveal that relationships between innovativeness and proactiveness with performance are significant when controlling for risk-taking. Therefore, it can be concluded that proactiveness and innovativeness do not relate to firm performance through their association with risk-taking.

Furthermore, it has been determined that proactiveness does not have an indirect, positive relationship with performance via risk-taking as a mediator or moderator. There is no three-way interaction effect between innovativeness, proactiveness, and risk-taking on performance. However, results confirm the positive moderating effect of innovativeness on the risk-taking – firm performance relationship. Stated differently, the positive relationship between risk-taking and performance is strengthened by innovativeness.

## REFERENCES

- [1] Putniņš, T.J. and Sauka, A.: *Why does entrepreneurial orientation affect company performance?* Strategic Entrepreneurship Journal **14**(4), 711-735, 2020, <http://dx.doi.org/10.1002/sej.1325>,
- [2] Covin, J.G. and Slevin, D.P.: *A conceptual model of entrepreneurship as firm behavior.* Entrepreneurship Theory and Practice **16**(1), 7-26, 1991, <http://dx.doi.org/10.1177/104225879101600102>,
- [3] Wiklund, J.: *The sustainability of the entrepreneurial orientation – performance relationship.* Entrepreneurship theory and practice **24**(1), 37-48, 1999, <http://dx.doi.org/10.1177/104225879902400103>,
- [4] Lumpkin, G.T. and Dess, G.G.: *Clarifying the entrepreneurial orientation construct and linking it to performance.* Academy of Management Review **21**(1), 135-172, 1996, <http://dx.doi.org/10.5465/amr.1996.9602161568>,
- [5] Lumpkin, G.T. and Dess, G.G.: *Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle.* Journal of Business Venturing **16**(5), 429-451, 2001, [http://dx.doi.org/10.1016/S0883-9026\(00\)00048-3](http://dx.doi.org/10.1016/S0883-9026(00)00048-3),
- [6] Wiklund, J. and Shepherd, D.: *Entrepreneurial orientation and small business performance: a configurational approach.* Journal of Business Venturing **20**(1), 71-91, 2005, <http://dx.doi.org/10.1016/j.jbusvent.2004.01.001>,
- [7] Gupta, V.K. and Wales, W.J.: *Assessing organisational performance within entrepreneurial orientation research: where have we been and where can we go from here?* The Journal of Entrepreneurship **26**(1), 51-76, 2017, <http://dx.doi.org/10.1177/0971355716677389>,
- [8] Miller, D.: *Miller (1983) revisited: A reflection on EO research and some suggestions for the future.* Entrepreneurship Theory and Practice **35**(5), 873-894, 2011, <http://dx.doi.org/10.1111/j.1540-6520.2011.00457.x>,
- [9] Covin, J.G. and Slevin, D.P.: *Strategic management of small firms in hostile and benign environments.* Strategic Management Journal **10**(1), 75-87, 1989, <http://dx.doi.org/10.1002/smj.4250100107>,
- [10] Tang, J., et al.: *Exploring an inverted U–shape relationship between entrepreneurial orientation and performance in Chinese ventures.* Entrepreneurship Theory and Practice **32**(1), 219-239, 2008, <http://dx.doi.org/10.1111/j.1540-6520.2007.00223.x>,

- [11] Rauch, A.; Wiklund, J.; Lumpkin, G.T. and Frese, M.: *Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future*. Entrepreneurship Theory and Practice **33**(3), 761-787, 2009, <http://dx.doi.org/10.1111/j.1540-6520.2009.00308.x>,
- [12] Wales, W.; Wiklund, J. and McKelvie, A.: *What about new entry? Examining the theorized role of new entry in the entrepreneurial orientation–performance relationship*. International Small Business Journal **33**(4), 351-373, 2015, <http://dx.doi.org/10.1177/0266242613506023>,
- [13] Lyon, D.W.; Lumpkin, G.T. and Dess, G.G.: *Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process*. Journal of Management **26**(5), 1055-1085, 2000, [http://dx.doi.org/10.1016/S0149-2063\(00\)00068-4](http://dx.doi.org/10.1016/S0149-2063(00)00068-4),
- [14] Kreiser, P.M.; Marino, L.D. and Weaver, K.M.: *Assessing the psychometric properties of the entrepreneurial orientation scale: A multi-country analysis*. Entrepreneurship Theory and Practice **26**(4), 71-93, 2002, <http://dx.doi.org/10.1177/104225870202600405>,
- [15] Avlonitis, G.J. and Salavou, H.E.: *Entrepreneurial orientation of SMEs, product innovativeness and performance*. Journal of Business Research **60**(5), 566-575, 2007, <http://dx.doi.org/10.1016/j.jbusres.2007.01.001>,
- [16] Hughes, M. and Morgan, R.E.: *Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth*. Industrial Marketing Management **36**(5), 651-661, 2007, <http://dx.doi.org/10.1016/j.indmarman.2006.04.003>,
- [17] Wang, H.K. and Yen, Y.F.: *An empirical exploration of corporate entrepreneurial orientation and performance in Taiwanese SMEs: A perspective of multidimensional construct*. Total Quality Management & Business Excellence **23**(9-10), 1035-1044, 2012, <http://dx.doi.org/10.1080/14783363.2012.670917>,
- [18] Covin, J.G. and Wales, W.J.: *Crafting high-impact entrepreneurial orientation research: Some suggested guidelines*. Entrepreneurship Theory and Practice **43**(1), 3-18, 2019, <http://dx.doi.org/10.1177/1042258718773181>,
- [19] Richard, O.C.; Barnett, T.; Dwyer, S. and Chadwick, K.: *Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions*. Academy of Management Journal **47**(2), 255-266, 2004, <http://dx.doi.org/10.5465/20159576>,
- [20] Naldi, L.; Nordqvist, M.; Sjöberg, K. and Wiklund, J.: *Entrepreneurial orientation, risk taking, and performance in family firms*. Family Business Review **20**(1), 33-47, 2007, <http://dx.doi.org/10.1111/j.1741-6248.2007.00082.x>,
- [21] Lee, S.M.; Lim, S.B. and Pathak, R.D.: *Culture and entrepreneurial orientation: a multi-country study*. International Entrepreneurship and Management Journal **7**(1), 1-15, 2011, <http://dx.doi.org/10.1007/s11365-009-0117-4>,
- [22] Fadda, N.: *The effects of entrepreneurial orientation dimensions on performance in the tourism sector*. New England Journal of Entrepreneurship **21**(1), 22-44, 2018, <http://dx.doi.org/10.1108/NEJE-03-2018-0004>,
- [23] Alarifi, G.; Robson, P. and Kromidha, E.: *The manifestation of entrepreneurial orientation in the social entrepreneurship context*. Journal of Social Entrepreneurship **10**(3), 307-327, 2019, <http://dx.doi.org/10.1080/19420676.2018.1541015>,

- [24] Basco, R.; Hernández-Perlines, F. and Rodríguez-García, M.: *The effect of entrepreneurial orientation on firm performance: A multigroup analysis comparing China, Mexico, and Spain.* Journal of Business Research **113**, 409-421, 2020, <http://dx.doi.org/10.1016/j.jbusres.2019.09.020>,
- [25] Escamilla-Fajardo, P.; Núñez-Pomar, J.M. and Calabuig, F.: *Does size matter? Entrepreneurial orientation and performance in Spanish sports clubs.* Sport in Society, 1-19, 2021, <http://dx.doi.org/10.1080/17430437.2021.1882424>,
- [26] Khan, E.A.; Harris, L. and Quaddus, M.: *The mediating role of personality traits on the entrepreneurial orientation–firm performance relationship: informal entrepreneurship context.* Journal of Global Entrepreneurship Research 1-12, 2021, <http://dx.doi.org/10.1007/s40497-021-00263-4>,
- [27] Kraus, S.; Rigtering, J.C.; Hughes, M. and Hosman, V.: *Entrepreneurial orientation and the business performance of SMEs: a quantitative study from the Netherlands.* Review of Managerial Science **6**(2), 161-182, 2012, <http://dx.doi.org/10.1007/s11846-011-0062-9>,
- [28] Moreno, A.M. and Casillas, J.C.: *Entrepreneurial orientation and growth of SMEs: A causal model.* Entrepreneurship Theory and Practice **32**(3), 507-528, 2008, <http://dx.doi.org/10.1111/j.1540-6520.2008.00238.x>,
- [29] Chaston, I. and Sadler-Smith, E.: *Entrepreneurial cognition, entrepreneurial orientation and firm capability in the creative industries.* British Journal of Management **23**(3), 415-432, 2012, <http://dx.doi.org/10.1111/j.1467-8551.2011.00752.x>,
- [30] Messersmith, J.G. and Wales, W.J.: *Entrepreneurial orientation and performance in young firms: The role of human resource management.* International Small Business Journal **31**(2), 115-136, 2013, <http://dx.doi.org/10.1177/0266242611416141>,
- [31] Su, Z.; Xie, E. and Li, Y.: *Entrepreneurial orientation and firm performance in new ventures and established firms.* Journal of Small Business Management **49**(4), 558-577, 2011, <http://dx.doi.org/10.1111/j.1540-627X.2011.00336.x>,
- [32] Tang, Z. and Tang, J.: *Entrepreneurial orientation and SME performance in China's changing environment: The moderating effects of strategies.* Asia Pacific Journal of Management **29**(2), 409-431, 2012, <http://dx.doi.org/10.1007/s10490-010-9200-1>,
- [33] Wales, W.J., et al.: *Non-linear effects of entrepreneurial orientation on small firm performance: The moderating role of resource orchestration capabilities.* Strategic Entrepreneurship Journal **7**(2), 93-121, 2013, <http://dx.doi.org/10.1002/sej.1153>,
- [34] Kreiser, P.M., et al.: *Disaggregating entrepreneurial orientation: the non-linear impact of innovativeness, proactiveness and risk-taking on SME performance.* Small Business Economics **40**(2), 273-291, 2013, <http://dx.doi.org/10.1007/s11187-012-9460-x>,
- [35] Yang, Y. and Ju, X.F.: *Entrepreneurial orientation and firm performance: Is product quality a missing link?* Entrepreneurship Research Journal **8**(1), 1-13, 2018, <http://dx.doi.org/10.1515/erj-2017-0091>,
- [36] Peng, X.B., et al.: *The non-linear effect of effectuation and causation on new venture performance: The moderating effect of environmental uncertainty.* Journal of Business Research **117**, 112-123, 2020, <http://dx.doi.org/10.1016/j.jbusres.2020.05.048>,

- [37] Laskovaia, A.; Marino, L.; Shirokova, G. and Wales, W.: *Expect the unexpected: examining the shaping role of entrepreneurial orientation on causal and effectual decision-making logic during economic crisis*.  
Entrepreneurship & Regional Development **31**(5-6), 456-475, 2019,  
<http://dx.doi.org/10.1080/08985626.2018.1541593>,
- [38] Lomberg, C., et al.: *Entrepreneurial orientation: The dimensions' shared effects in explaining firm performance*.  
Entrepreneurship Theory and Practice **41**(6), 973-998, 2017,  
<http://dx.doi.org/10.1111/etap.12237>,
- [39] George, B.A. and Marino, L.: *The epistemology of entrepreneurial orientation: Conceptual formation, modeling, and operationalization*.  
Entrepreneurship Theory and Practice **35**(5), 989-1024, 2011,  
<http://dx.doi.org/10.1111/j.1540-6520.2011.00455.x>,
- [40] Morić Milovanović, B.: *Moderating effect of external environment on the entrepreneurial orientation and business performance relationship of Croatian small and medium sized manufacturing enterprises*.  
Poslovna izvrsnost **6**(2), 9-23, 2012,
- [41] Morić Milovanović, B.; Wittine, Z. and Bubaš, Z.: *Examining entrepreneurial orientation–performance relationship among Croatian service SMEs*.  
Ekonomski misao i praksa **30**(2), 509-526, 2021,  
<http://dx.doi.org/10.17818/EMIP/2021/2.10>,
- [42] Luu, N. and Ngo, L.V.: *Entrepreneurial orientation and social ties in transitional economies*.  
Long Range Planning **52**(1), 103-116, 2019,  
<http://dx.doi.org/10.1016/j.lrp.2018.04.001>,
- [43] Kohtamäki, M.; Heimonen, J. and Parida, V.: *The non-linear relationship between entrepreneurial orientation and sales growth: The moderating effects of slack resources and absorptive capacity*.  
Journal of Business Research **100**, 100-110, 2019,  
<http://dx.doi.org/10.1016/j.jbusres.2019.03.018>,
- [44] Aloulou, W. and Fayolle, A.: *A conceptual approach of entrepreneurial orientation within small business context*.  
Journal of Enterprising Culture **13**(01), 21-45, 2005,  
<http://dx.doi.org/10.1142/S0218495805000045>,
- [45] Milovanovic, B.M. and Wittine, Z.: *Analysis of external environment's moderating role on the entrepreneurial orientation and business performance relationship among Italian small enterprises*.  
International Journal of Trade, Economics and Finance **5**(3), 224, 2014,  
<http://dx.doi.org/10.7763/IJTEF.2014.V5.375>,
- [46] Etemad, H.: *Entrepreneurial orientation-performance relationship in the international context*.  
Journal of International Entrepreneurship **13**(1), 1-6, 2015,  
<http://dx.doi.org/10.1007/s10843-015-0150-z>,
- [47] Wang, C.L.: *Entrepreneurial orientation, learning orientation, and firm performance*.  
Entrepreneurship Theory and Practice **32**(4), 635-657, 2008,  
<http://dx.doi.org/10.1111/j.1540-6520.2008.00246.x>,
- [48] Li, Y., et al.: *Moderating effects of entrepreneurial orientation on market orientation–performance linkage: Evidence from Chinese small firms*.  
Journal of Small Business Management **46**(1), 113-133, 2008,  
<http://dx.doi.org/10.1111/j.1540-627X.2007.00235.x>,
- [49] Freiling, J. and Lütke Schelhowe, C.: *The impact of entrepreneurial orientation on the performance and speed of internationalization*.  
Journal of Entrepreneurship, Management and Innovation **10**(4), 169-199, 2014,  
<http://dx.doi.org/10.7341/20141047>,

- [50] Zhai, Y.M., et al.: *An empirical study on entrepreneurial orientation, absorptive capacity, and SMEs' innovation performance: A sustainable perspective.* Sustainability **10**(2), No. 314, 2018, <http://dx.doi.org/10.3390/su10020314>,
- [51] Donbesuur, F.; Boso, N. and Hultman, M.: *The effect of entrepreneurial orientation on new venture performance: Contingency roles of entrepreneurial actions.* Journal of Business Research **118**, 150-161, 2020, <http://dx.doi.org/10.1016/j.jbusres.2020.06.042>,
- [52] Sahaym, A.; Datta, A.A. and Brooks, S.: *Crowdfunding success through social media: Going beyond entrepreneurial orientation in the context of small and medium-sized enterprises.* Journal of Business Research **125**, 483-494, 2021, <http://dx.doi.org/10.1016/j.jbusres.2019.09.026>,
- [53] Yin, M.; Hughes, M. and Hu, Q.: *Entrepreneurial orientation and new venture resource acquisition: why context matters.* Asia Pacific Journal of Management **38**(4), 1369-1398, 2021, <http://dx.doi.org/10.1007/s10490-020-09718-w>,
- [54] Covin, J.G. and Lumpkin, G. T.: *Entrepreneurial orientation theory and research: Reflections on a needed construct.* Entrepreneurship Theory and Practice **35**(5), 855-872, 2011, <http://dx.doi.org/10.1111/j.1540-6520.2011.00482.x>,
- [55] Wales, W.J.; Covin, J.G. and Monsen, E.: *Entrepreneurial orientation: The necessity of a multilevel conceptualization.* Strategic Entrepreneurship Journal **14**(4), 639-660, 2020, <http://dx.doi.org/10.1002/sej.1344>,
- [56] Ranasinghe, H.K.G.S., et al.: *A systematic literature analysis on entrepreneurial orientation and business performance.* Journal of Business Economics and Finance **7**(3), 269-287, 2018,
- [57] Edmond, V.P. and Wiklund, J.: *The historical roots of entrepreneurial orientation research. In Historical Foundations of Entrepreneurship Research.* Edward Elgar Publishing, 2010, <http://dx.doi.org/10.4337/9781849806947>,
- [58] Wales, W., et al.: *Entrepreneurial orientation: International, global and cross-cultural research.* International Small Business Journal **37**(2), 95-104, 2019, <http://dx.doi.org/10.1177/0266242618813423>,
- [59] Rosenbusch, N.; Rauch, A. and Bausch, A.: *The mediating role of entrepreneurial orientation in the task environment–performance relationship: A meta-analysis.* Journal of Management **39**(3), 633-659, 2013, <http://dx.doi.org/10.1177/0149206311425612>,
- [60] Engelen, A., et al.: *Entrepreneurial orientation, firm performance, and the moderating role of transformational leadership behaviors.* Journal of Management **41**(4), 1069-1097, 2015, <http://dx.doi.org/10.1177/0149206312455244>,
- [61] Tuan, L.T.: *Entrepreneurial orientation and competitive intelligence: cultural intelligence as a moderator.* Journal of Research in Marketing and Entrepreneurship **17**(2), 212-228, 2015, <http://dx.doi.org/10.1108/JRME-07-2015-0038>,
- [62] Luu, T.T.: *Ambidextrous leadership, entrepreneurial orientation, and operational performance: Organizational social capital as a moderator.* Leadership & Organization Development Journal **38**(2), 229-253, 2017, <http://dx.doi.org/10.1108/LODJ-09-2015-0191>,

- [63] Rezaei, J. and Ortt, R.: *Entrepreneurial orientation and firm performance: the mediating role of functional performances*.  
Management Research Review **41**(7), 878-900, 2018,  
<http://dx.doi.org/10.1108/MRR-03-2017-0092>,
- [64] Hernández-Linares, R., et al: *The effect of socioemotional wealth on the relationship between entrepreneurial orientation and family business performance*.  
Business Research Quarterly, 2019,  
<http://dx.doi.org/10.1016/j.brq.2019.03.002>,
- [65] Shafique, I. and Saeed, M.: *Linking elements of entrepreneurial orientation and firm performance: examining the moderation of environmental dynamism*.  
Middle East Journal of Management **7**(1), 93-108, 2020,  
<http://dx.doi.org/10.1504/MEJM.2020.105228>,
- [66] Jantunen, A., et al.: *Entrepreneurial orientation, dynamic capabilities and international performance*.  
Journal of International Entrepreneurship **3**(3), 223-243, 2005,  
<http://dx.doi.org/10.1007/s10843-005-1133-2>,
- [67] Saeed, S.; Yousafzai, S.Y. and Engelen, A.: *On cultural and macroeconomic contingencies of the entrepreneurial orientation–performance relationship*.  
Entrepreneurship Theory and Practice **38**(2), 255-290, 2014,  
<http://dx.doi.org/10.1111/etap.12097>,
- [68] McKenny, A.F., et al.: *Strategic entrepreneurial orientation: Configurations, performance, and the effects of industry and time*.  
Strategic Entrepreneurship Journal **12**(4), 504-521, 2018,  
<http://dx.doi.org/10.1002/sej.1291>,
- [69] Kollmann, T.; Christofor, J. and Kuckertz, A.: *Explaining individual entrepreneurial orientation: Conceptualisation of a cross-cultural research framework*.  
International Journal of Entrepreneurship and Small Business **4**(3), 325-340, 2007,  
<http://dx.doi.org/10.1504/IJESB.2007.013255>,
- [70] Morris, M.H.; Webb, J.W. and Franklin, R.J.: *Understanding the manifestation of entrepreneurial orientation in the non-profit context*.  
Entrepreneurship Theory and Practice **35**(5), 947-971, 2011,  
<http://dx.doi.org/10.1111/j.1540-6520.2011.00453.x>,
- [71] Gruber-Muecke, T. and Hofer, K.M.: *Market orientation, entrepreneurial orientation and performance in emerging markets*.  
International Journal of Emerging Markets **10**(3), 560-571, 2015,  
<http://dx.doi.org/10.1108/IJoEM-05-2013-0076>,
- [72] Hernández-Linares, R. and López-Fernández, M.C.: *Entrepreneurial orientation and the family firm: Mapping the field and tracing a path for future research*.  
Family Business Review **31**(3), 318-351, 2018,  
<http://dx.doi.org/10.1177/0894486518781940>,
- [73] Linton, G. and Kask, J.: *Configurations of entrepreneurial orientation and competitive strategy for high performance*.  
Journal of Business Research **70**, 168-176, 2017,  
<http://dx.doi.org/10.1016/j.jbusres.2016.08.022>,
- [74] Linton, G.: *Innovativeness, risk-taking, and proactiveness in startups: a case study and conceptual development*.  
Journal of Global Entrepreneurship Research **9**(1), 1-21, 2019,  
<http://dx.doi.org/10.1186/s40497-019-0147-5>,
- [75] Antoncic, J.A., et al.: *Risk-taking propensity and entrepreneurship: The role of power distance*.  
Journal of Enterprising Culture **26**(01), 1-26, 2018,  
<http://dx.doi.org/10.1142/S0218495818500012>,

- [76] Chanda, A. and Unel, B.: *Do attitudes toward risk taking affect entrepreneurship? Evidence from second-generation Americans.*  
Journal of Economic Growth **26**(4), 385-413, 2021,  
<http://dx.doi.org/10.1007/s10887-021-09197-8>,
- [77] Kuratko, D.F.; Fisher, G. and Audretsch, D.B.: *Unraveling the entrepreneurial mindset.*  
Small Business Economics **57**(4), 1681-1691, 2021,  
<http://dx.doi.org/10.1007/s11187-020-00372-6>,
- [78] Dess, G.G. and Lumpkin, G.T.: *The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship.*  
Academy of Management Perspectives **19**(1), 147-156, 2005,  
<http://dx.doi.org/10.5465/ame.2005.15841975>,
- [79] Miller, D. and Friesen, P.H.: *Archetypes of strategy formulation.*  
Management science **24**(9), 921-933, 1978,  
<http://dx.doi.org/10.1287/mnsc.24.9.921>,
- [80] Tang, Z., et al: *A hierarchical perspective of the dimensions of entrepreneurial orientation.*  
International Entrepreneurship and Management Journal **5**(2), 181-201, 2009,  
<http://dx.doi.org/10.1007/s11365-008-0097-9>,
- [81] Jong, J.P.D., et al: *Entrepreneurial behavior in organizations: does job design matter?*  
Entrepreneurship Theory and Practice **39**(4), 981-995, 2015,  
<http://dx.doi.org/10.1111/etap.12084>,
- [82] Antoncic, B.; Prodan, I.; Hisrich, R.D. and Scarlat, C.: *Technological innovativeness and firm performance in Slovenia and Romania.*  
Post-Communist Economies **19**(3), 281-298, 2007,  
<http://dx.doi.org/10.1080/14631370701503299>,
- [83] Dibrell, C.; Craig, J.B. and Neubaum, D.O.: *Linking the formal strategic planning process, planning flexibility, and innovativeness to firm performance.*  
Journal of Business Research **67**(9), 2000-2007, 2014,  
<http://dx.doi.org/10.1016/j.jbusres.2013.10.011>,
- [84] Hatak, I.; Kautonen, T.; Fink, M. and Kansikas, J.: *Innovativeness and family-firm performance: The moderating effect of family commitment.*  
Technological Forecasting and Social Change **102**, 120-131, 2016,  
<http://dx.doi.org/10.1016/j.techfore.2015.02.020>,
- [85] Bature, S.W.; Sallehuddin, R.M.; Rosli, N.A. and Saad, S.: *Proactiveness, innovativeness and firm performance: the mediating role of organizational capability.*  
Academy of Strategic Management Journal **17**(5), 1-14, 2018,
- [86] Gupta, A.K. and Govindarajan, V.: *Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation.*  
Academy of Management Journal **27**(1), 25-41, 1984,  
<http://dx.doi.org/10.5465/255955>,
- [87] Preacher, K.J. and Hayes, A.F.: *SPSS and SAS procedures for estimating indirect effects in simple mediation models.*  
Behavior Research Methods, Instruments & Computers **36**(4), 717-731, 2004,  
<http://dx.doi.org/10.3758/BF03206553>.