

The relationship between individual entrepreneurial orientation (IEO) and entrepreneurial bricolage: exploring passion and perseverance

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Abstract

Purpose – The purpose of this paper is to investigate the relationship between individual entrepreneurial orientation (IEO) and bricolage behavior, considering the two emerging dimensions of IEO measurement: passion and perseverance.

Design/methodology/approach – A total of 187 postgraduate students who have recently started a new business were selected as the research sample. This study aimed to explore the multidimensional perspective of the new IEO construct. Hierarchical multiple regression analysis was applied to examine the hypotheses.

Findings – The results show that along with the enactment of traditional dimensions of IEO, examining the newly introduced dimensions illustrates a distinguished explanation of IEO in resource-scarce environments and leads to a development in entrepreneurial bricolage.

Originality/value – This study examined the IEO construct with two emerging dimensions of IEO measurement: passion and perseverance. This IEO construct is primarily associated with individual behavior and declares bricolage behavior more effectively.

Keywords Innovation, Perseverance, Entrepreneurial passion, Individual entrepreneurial orientation, Entrepreneurial bricolage

Paper type Research paper

Introduction

Entrepreneurial Orientation (EO) is a prevalent research topic in entrepreneurship and management scholarship (Covin *et al.*, 2020; Ferreira *et al.*, 2017; Wales, 2016). EO refers to a specific entrepreneurial attribute which is highlighted by three major dimensions of risk taking, innovativeness and proactiveness (Covin *et al.*, 2020; Gupta *et al.*, 2015; Wales, 2016). A large body of EO literature explores the operation of EO in firms. Empirical studies



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emphasize the positive relationship between EO and firm performances. These studies investigate how firms establish strategies to furnish the premises for entrepreneurial decisions and actions (Rauch *et al.*, 2009; Covin and Wales, 2012).

Recent research has used EO to anticipate the entrepreneurial propensity among individuals within firms which is considered as individual entrepreneurial orientation (IEO) (Bolton and Lane, 2012; Ferreira *et al.*, 2015; Forcadell and Úbeda, 2020; Gupta *et al.*, 2016; Koe, 2019; Kraus *et al.*, 2019; Santos *et al.*, 2020; Nair *et al.*, 2020; Shin, 2013). Given the measurement issues, Bolton and lane (2012) modified the scale of EO with the three dimensions of risk taking, innovativeness and proactiveness to be applied in IEO research. They also argued that to investigate IEO, this question should be answered: "What are the personal characteristics or attitudes a person possesses that might increase propensity to engage in and be successful at entrepreneurial activities?" (Bolton and Lane, 2012). As such, scrutinizing the individual attitude and personality traits to propose the specific behavior is the foci of IEO (Bolton and Lane, 2012; Koe, 2016; Gupta *et al.*, 2016). Yet, a few empirical studies of IEO are devoted to entrepreneurial behavior (Covin *et al.*, 2020).

Scholars have recently identified two emerging dimensions that are additional to the above measurement scale of EO/IEO. These two dimensions are entrepreneurial passion and perseverance (Gerschewski *et al.*, 2016). In this vein, Santos *et al.* (2020) analyzed these dimensions and their application to IEO (Santos *et al.*, 2020). However, previous studies of IEO were not clear enough in defining what the outcome of the personal characteristics or attitudes of a person is to be specifically entrepreneurial. In particular, the relationship between IEO construct and entrepreneurial behavior in resource-constrained environments (such as entrepreneurial bricolage) is neglected. In such environments, individuals within firms play a significant role in showing entrepreneurial behavior and help businesses to exploit opportunities and promote innovation. Therefore, this research addresses the overlooked side of IEO which causes entrepreneurial bricolage behavior in resource-constrained environments. A key aspect of the present research is to examine if the traditional IEO construct explains entrepreneurial bricolage as well as adding the two new dimensions to explore more insights about the IEO-bricolage relationship.

Literature review ad hypotheses development

Individual entrepreneurial orientation

EO is a major area of interest within the field of entrepreneurship (Covin *et al.*, 2020; Gupta *et al.*, 2015; Wales, 2016). In the past few decades, there has been a dramatic increase in research on EO in which more than 1,000 research articles were published primarily in entrepreneurship and management journals (Gupta *et al.*, 2015; Wales, 2016). EO can be defined as a way to accept and deal with environmental challenges that provokes entrepreneurial behavior and initiates flexibility and adaptability for businesses (Covin and Lumpkin, 2011; Gupta *et al.*, 2015; Rauch *et al.*, 2009).

EO is an umbrella term that encompasses five modes of behavior including innovativeness, risk taking, proactiveness, autonomy and competitive aggressiveness. "Innovativeness is the predisposition to engage in creativity and experimentation through the introduction of new products/services as well as technological leadership via R&D in new processes. Risk taking involves taking bold actions by venturing into the unknown, borrowing heavily and/or committing significant resources to ventures in uncertain environments. Proactiveness is an opportunity-seeking, forward-looking perspective characterized by the introduction of new products and services ahead of the competition and acting in anticipation of future demand. Competitive aggressiveness is the intensity of a firm's effort to outperform rivals and is characterized by a strong offensive posture or

aggressive responses to competitive threats. Autonomy refers to independent action undertaken by entrepreneurial leaders or teams directed at bringing about a new venture and seeing it to fruition" (Rauch *et al.*, 2009).

One major issue in early EO research is concerned with the unidimensional and multidimensional constructs. The unidimensional perspective consists of risk taking, innovativeness and proactiveness as a "holistic construct" of EO. On the other hand, the multidimensional perspective comprises risk taking, innovativeness, proactiveness, competitive aggressiveness and autonomy as independent dimensions of EO (Gupta *et al.*, 2015; Bolton and Lane, 2012). Previous studies have failed to demonstrate any benefits associated with privileging one of these premises. Because these viewpoints are focused on different phenomena, both unidimensional and multidimensional constructs are suitable for the study (Covin and Wales, 2019).

Despite several conceptualizations of EO, there remains a paucity of research examining the manifestations of EO, particularly in different levels of analysis (Wales *et al.*, 2020). The larger part of the literature on EO seems to have been based on firm-level construct (Covin and Miller, 2014; Rauch *et al.*, 2009) or organizational configuration (Wales *et al.*, 2020). However, recent studies have proposed that using a broader range of EO (such as different level of analysis) could shed more light on the entrepreneurial literature (Covin and Wales, 2019; Wales *et al.*, 2020). In the latest studies on this specific topic, scholars have paid particular attention to the individual level of analysis (as IEO) (Bolton and Lane, 2012; Covin *et al.*, 2020; Gupta *et al.*, 2016; Koe, 2019; Kraus *et al.*, 2019).

IEO has been identified as a major capability for an individual which affects his or her disposition to become an entrepreneur (Bolton, 2012; Bolton and Lane, 2012; Ferreira *et al.*, 2017; Covin *et al.*, 2020). Scholars point out that the IEO construct is the same as EO (Bolton and Lane, 2012; Koe, 2019), which contains risk-taking, innovativeness and proactiveness (Ferreira *et al.*, 2015; Bolton and Lane, 2012; Kraus *et al.*, 2019). IEO enhances the ability of individuals to identify opportunities and propose entrepreneurial behavior, or in the case of managing a business, they can increase the performance of their businesses (Ferreira *et al.*, 2015; Kraus *et al.*, 2019; Santos *et al.*, 2020; Forcadell and Úbeda, 2020; Cho and Lee, 2018; Kim, 2018). Bolton and Lane (2012) argued that considering the individual-level of EO highlights this question: "What are the personal characteristics or attitudes a person possesses that might increase the propensity to engage in and be successful at entrepreneurial activities?" (Bolton and Lane, 2012). As such, IEO studies explore personality traits and attitudes toward starting a new venture (Bolton and Lane, 2012; Ferreira *et al.*, 2017; Gupta *et al.*, 2016).

Previous studies have focused on the relationship between IEO and entrepreneurial intention (Koe, 2016; Bolton and Lane, 2012), IEO and firms performances (Covin *et al.*, 2020; Gupta *et al.*, 2016; Kraus *et al.*, 2019; Forcadell and Úbeda, 2020), the role of different environments on shaping IEO (Jelenc *et al.*, 2016), the role of demographics on IEO (Goktan and Gupta, 2015; Hunt, 2016) and finally, measurement issues of IEO constructs (Bolton, 2012; Bolton and Lane, 2012; Ferreira *et al.*, 2017; Ferreira *et al.*, 2015; Santos *et al.*, 2020). These studies practically used multidimensional modified constructs of EO (Koe, 2016; Covin *et al.*, 2020) with this rationalization that the three constructs of EO (proactiveness, innovativeness and risk-taking) would not be expected to appear simultaneously for an individual (Covin *et al.*, 2020). However, Covin and Miller (2014) highlighted the need to assess the potential unrecognized elements of EO particularly for individual level of analysis, because "new entry will be associated with unique drivers that vary by cultural context" (Covin and Miller, 2014).

To explore this topic, recent studies have considered individual emotions and traits and relationships with traditional EO constructs. In this vein, Gerschewski *et al.* (2016) proposed two new dimensions for EO, i.e. passion and perseverance, based on a qualitative approach

(Gerschewski *et al.*, 2016). Moreover, Santos *et al.* (2020) used these two extended dimensions as an integral part of a multidimensional IEO construct and suggested a new measure for IEO by adding these two dimensions to the measure proposed by Bolton and Lane (2012) (Santos *et al.*, 2020).

Entrepreneurial passion is defined as “consciously accessible intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful and salient to the self-identity of the entrepreneur” (Cardon *et al.*, 2013). Entrepreneurial passion is an important driver of entrepreneurial behavior. In particular, in the resource-constraint environment, entrepreneurial passion supports individuals to exhibit specific entrepreneurial behavior such as bricolage (Stenholm and Renko, 2016). Entrepreneurial passion provides exclusive triggers for entrepreneurs and enables them to acquire the needed resources to start a new business. Entrepreneurial passion influence behavior in terms of inventing, founding and developing in the business realm (Cardon *et al.*, 2013). As such, the positive feeling throughout the process of entrepreneurial action enhances emotional traits and pushes entrepreneurs to achieve their goals.

Perseverance is defined as “a necessary condition for being successful at starting and carrying out entrepreneurial ventures” (Gerschewski *et al.*, 2016) with “continued goal striving in spite of adversity, as a core competency for the enterprising individual” (Van Gelderen, 2012). Therefore, perseverance in scarce-resource environments helps entrepreneurs to survive and challenge the environmental hurdles. Entrepreneurs need to increase resourcefulness when confronted with difficulties to acquire resources for entrepreneurial action. Perseverance is also linked to business growth and successful leadership in goal-directed action when faced with hurdles (Gerschewski *et al.*, 2016; Santos *et al.*, 2020).

As these two advanced dimensions addressing IEO are related to emotions and individual traits, the main question is how this new construct explains internal and external interactions (Gerschewski *et al.*, 2016). In other words, how the new construct clarifies particular entrepreneurial behavior? As explained earlier, IEO refers to the tendency to accept and deal with challenges from environments, which drives entrepreneurial behavior and action, together with flexibility and adaptability for businesses (Covin and Lumpkin, 2011; Gupta *et al.*, 2015; Rauch *et al.*, 2009).

Entrepreneurs confront resource scarcity, as the most common challenge for businesses and endeavor to cope with the paucity of required resources. In this regard, one of the most pertinent themes in the literature is “the emerging theory of entrepreneurial bricolage” (Davidsson *et al.*, 2017). In the present research, the new construct of IEO was evaluated with bricolage behavior as this specific entrepreneurial endeavor needs an adequate level of individual-level emotions and traits.

Entrepreneurial bricolage

According to Davidsson *et al.* (2017), entrepreneurs may identify an opportunity in resource-poor environments, have a low level of capital to invest, or be excited about an opportunity that is not considered for investors (Davidsson *et al.*, 2017). Because of the scarcity of resources, such circumstances have fundamental consequences on entrepreneurs’ behaviors and remarkably on the growth and survival of the firm (Baker and Nelson, 2005). Entrepreneurial bricolage is a research topic to explore such behaviors in resource-constrained environments (Baker and Nelson, 2005; Davidsson *et al.*, 2017). In entrepreneurship literature, bricolage elaborates market creation and nascent firm growth, while in innovation literature, bricolage “describes how robust designs can be created in uncertain environments” (Fisher, 2012).

Entrepreneurial bricolage is defined as “making do by applying combinations of the resources at hand to new problems and opportunities” (Baker and Nelson, 2005). The three dimensions of bricolage explain how individuals make resourceful decisions in an environment with poor resources. First, making do depicts a refusal to enact limitations that cause innovation. Second, combining the resources for new purposes represents the situation that entrepreneurs use the resources other than the origins of intended (Davidsson *et al.*, 2017). This also enforces innovation. Finally, using the available resources can be acquired cheaply or free of charge which is contrasted with new resource seeking behavior to opportunity identification (Witell *et al.*, 2017). As a result, entrepreneurs can exhibit innovation in poor environments (Senyard *et al.*, 2014).

In less developed economies, in particular, entrepreneurs face resource constraints (Witell *et al.*, 2017). In this sense, Smith and Blundel (2014) stated that bricolage is the main pathway for innovation in many less developed economies (Smith and Blundel, 2014). In terms of IEO in such economies, an important question is how IEO is manifested in the context of bricolage behavior. Relatively few studies have actually examined the impact of the IEO construct on bricolage behavior. Although, some studies on EO/IEO have focused on the resource-constrained environments and developing economies (Boso *et al.*, 2013; Nakku *et al.*, 2020; Guerrero *et al.*, 2020). Moreover, some research have been carried out on the relationship between EO and bricolage (Salunke *et al.*, 2013; Voltan, 2019). However, previous studies have failed to demonstrate any causal relationship between IEO and specific entrepreneurial behavior such as entrepreneurial bricolage in resource-constrained environments.

The aim of the present study was to shed a new light on the relationship between IEO and entrepreneurial bricolage. Furthermore, it attempted to address the gap in the research on IEO construct by exploring the relationship between the three traditional constructs of IEO (risk taking, innovativeness and proactiveness) and more importantly the effect of the two new dimensions of IEO (passion and perseverance). As such, this study set out to test the following hypotheses:

- H1. Risk-taking has a direct relationship with entrepreneurial bricolage.
- H2. Innovativeness has a direct relationship with entrepreneurial bricolage.
- H3. Proactiveness has a direct relationship with entrepreneurial bricolage.
- H4. Entrepreneurial passion has a direct relationship with entrepreneurial bricolage.
- H5. Perseverance has a direct relationship with entrepreneurial bricolage.

Research model

Figure 1 shows the hypothesized research model to analyze the five hypotheses above.

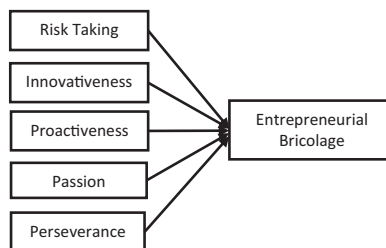


Figure 1.
Research model

Methodology

Participants and procedure

An online survey was conducted between March and June 2020 for data collection. The survey participants consisted of postgraduate students who have started a new business in the last five years. These students were enrolled in entrepreneurship and business management courses at the University of Tehran, Iran. A total of 236 questionnaires were distributed and 187 completed questionnaires were obtained (response rate: 79.3%).

Because this study aimed to explore the multidimensional perspective of the new IEO construct and also examine the relationships of the three traditional dimensions with or without insertion of the two new dimensions, hierarchical multiple regression analysis was applied. For the desired sample size for multiple regression analysis, [Hair et al. \(2014\)](#) suggested that 15–20 observations for each independent variable is the minimum desired level ([Hair et al., 2014](#)). Therefore, 187 participants took part in this research for the desirability of the sample size.

Measure

IEO: This variable was measured using the scale developed by [Bolton and Lane \(2012\)](#) and the two new constructs for IEO proposed by [Santos et al. \(2020\)](#). Ten items for the first three factors (risk taking, innovativeness and proactiveness) and nine items for entrepreneurial passion and perseverance were used.

Entrepreneurial bricolage: this variable was measured by the nine items proposed by [Davidsson et al. \(2017\)](#).

Control variables: the gender and age of the participants were considered as control variables.

Statistical procedure

Given that the current research aimed to investigate the direct relationship between independent variables (IEO's constructs) and dependent variable (bricolage behavior), multiple regression analysis was appropriate. As two new dimensions of IEO (passion and perseverance) have recently been proposed by [Santos et al. \(2020\)](#) to determine the effect of these variables on the prediction of the dependent variable, hierarchical multiple regression analysis was used.

Multiple regression needs several assumptions about the relationships between variables. These assumptions are the correct sample size, normality, linearity, homoscedasticity, independence of residuals, multicollinearity and outliers ([Hair et al., 2014](#); [Pallant, 2013](#)). All of these assumptions were analyzed and are satisfied. Furthermore, for examining the goodness of measures, all variables entered into exploratory factor analysis with principal components extraction and Varimax rotation solution, which the factor analysis was appropriate. Finally, for testing the reliability the Cronbach's alpha coefficient was 0.83 which is appropriate ([Pallant, 2013](#)).

Results

[Table 1](#) provides the means, standard deviations, correlations and Cronbach's alphas for the variables used in the multiple regression analyses. The average age of participants was approximately 29 years old. Significant positive correlations were between constructs of EO and bricolage behavior.

[Table 2](#) depicts the results of the hierarchical regression analyses. Model 1 shows that the control variables were entered. In model 2, the three factors of EO as independent variables were entered the regression. The statistically significant level of these variables indicated the share of variance in bricolage behavior (R^2 : 0.232, $p < 0.01$) which meant these variables

explained 23% of the variance in the model. Overall, model 2 was significant at $F(3,180) = 10.891; p = 0.000 < 0.05$, indicating that the constructs of EO had significant proportions of the variance in bricolage behavior. The adjusted R^2 was 0.18, which indicated 18% of the variance explained by the three IEO constructs (risk taking, innovativeness and proactiveness). However, Model 2 of this study showed that without new emerging dimensions, proactiveness has no significant relation with bricolage.

In Model 3, the other two IEO constructs were entered into the test. The overall model was significant at $F(3, 148) = 15.660; p = 0.000 < 0.05$ and R square change value is roughly increased by 0.15, meaning an additional 15% of the variance in bricolage behavior. Therefore, it is indicated that the new constructs of EO have significant proportions of the variance in bricolage behavior. Altogether, the statistically significant Model 3 represented the share of variance in bricolage behavior ($R^2: 0.381, p < 0.01$) meaning that the independent variable explained 38% of the variance in the model.

Hypothesis number 1 proposed that risk-taking influences on entrepreneurial bricolage. The direct relationship between risk taking and entrepreneurial bricolage had a significant,

Variable	M	SD	α	1	2	3	4	5	6	7
1 Age	28.88	4.25	-	-	-	-	-	-	-	-
2 Gender	0.58	0.495	-	-0.219**	-	-	-	-	-	-
3 Risk Taking	4.94	0.70	0.85	0.121**	-0.079	-	-	-	-	-
4 Innovativeness	5.11	0.74	0.77	0.072	0.013	0.366**	-	-	-	-
5 Proactiveness	5.13	0.73	0.78	0.067	0.009	0.382**	0.842**	-	-	-
6 Passion	5.41	0.63	0.80	0.150**	-0.073	0.337**	0.557**	0.572**	-	-
7 Perseverance	5.36	0.56	0.81	0.113	-0.033	0.262**	0.549**	0.554**	0.519**	-
8 Bricolage	5.06	0.45	0.83	0.237**	-0.063	0.331**	0.388**	0.296**	0.502**	0.460**

Notes: * $p < 0.05$; ** $p < 0.01$

Table 1.
Means, standard
deviations,
correlations and
Cronbach's alphas

Variables	β	SE	P	R^2	ΔR^2
<i>Model 1</i>			0.005**	0.056	0.056
Age	0.008	0.008	0.002		
Gender	0.066	0.058	0.868		
<i>Model 2</i>			0.000**	0.232	0.176
Age	0.180	0.007	0.009		
Gender	-0.012	0.062	0.854		
Risk taking	0.20	0.066	0.005		
Innovativeness	0.43	0.087	0.001		
Proactiveness	-0.15	0.089	0.208		
<i>Model 3</i>			0.000**	0.381	0.149
Age	0.137	0.007	0.027		
Gender	0.012	0.060	0.845		
Risk taking	0.158	0.066	0.016		
Innovativeness	0.279	0.088	0.014		
Proactiveness	-0.347	0.091	0.003		
Passion	0.335	0.062	0.000		
Perseverance	0.269	0.069	0.000		

Note: ** $p < 0.01$

Table 2.
Results of
hierarchical
regression analyses

positive influence on entrepreneurial bricolage ($\beta = 0.16$; $p = 0.016 < 0.05$). Therefore, *H1* was supported. *H2* proposed that innovativeness influenced entrepreneurial bricolage. The direct relationship between innovativeness and entrepreneurial bricolage had a significant positive influence on entrepreneurial bricolage ($\beta = 0.28$; $p = 0.014 < 0.05$). Therefore, *H2* was supported. *H3* proposed that proactiveness influences entrepreneurial bricolage. The direct relationship between proactiveness and entrepreneurial bricolage had a significant negative influence on entrepreneurial bricolage ($\beta = -0.347$; $p = 0.003 > 0.05$). Therefore, *H3* was supported.

H4 proposed entrepreneurial passion influences entrepreneurial bricolage. The direct relationship between entrepreneurial passion and entrepreneurial bricolage had a significant positive influence on entrepreneurial bricolage ($\beta = 0.33$; $p = 0.000 < 0.05$). Therefore, *H4* was supported. *H5* proposed that perseverance influences entrepreneurial bricolage. The direct relationship between perseverance and entrepreneurial bricolage had a significant positive influence on entrepreneurial bricolage ($\beta = 0.269$; $p = 0.000 < 0.05$). Therefore, *H5* was supported.

Discussion

The IEO scale with two emerging dimensions (passion and perseverance) provides a way to examine the individual-level of EO and its relationship with entrepreneurial behaviors (Gerschewski *et al.*, 2016; Santos *et al.*, 2020). The results of this research advocated the argument that the configuration of EO with further dimensions ascertains the individual-level of entrepreneurial behavior such as bricolage. It also showed that adding the new dimensions to the traditional constructs (risk taking, innovativeness and proactiveness) is valid admissible for evaluating an entrepreneurial behavior.

The three dimensions of EO modified for measuring IEO had different interactions with bricolage behavior in the present research. Previous studies on IEO are consistent with Bolton and Lane (2012) and confirm that the three dimensions of risk-taking, innovativeness and proactiveness have a positive and direct relationship with entrepreneurial behavior. However, in terms of the IEO-bricolage relationship, the current study provided different findings. One unanticipated finding was about proactiveness. Previous studies highlighted the importance of proactiveness among other factors, for instance, its importance in showing entrepreneurial intention (Koe, 2016), perceived employability (Koe, 2019), exploration of new opportunities (Kraus *et al.*, 2019) and teamwork performances (Covin *et al.*, 2020). Having no resemblance, this study showed that for entrepreneurial bricolage behavior, without considering the new emerging dimensions of passion and perseverance, proactiveness has no relationship with bricolage. Moreover, by considering two emerging dimensions, proactiveness could be in the opposite direction and individuals with a low level of proactiveness have more proclivity to propose bricolage behavior. This finding is unique for IEO; individuals with a bricolage mindset do not have an approach to resource acquisition as first-mover (Baker and Nelson, 2005); rather, they make do by a combination of resources at hand which does not make them necessarily proactive than the other possible competitors (Senyard *et al.*, 2014).

In addition, the results showed that risk taking had a weak but significant relationship to proposing bricolage behavior. This finding is also important because it confirmed that bricoleurs take a low level of risk by relying on a cheap or free of charge resource seeking (Gupta *et al.*, 2015; Wales, 2016; Voltan, 2019). The result of the present research proposed that innovativeness had a positive relationship with the bricolage mindset. This finding is completely expected for individuals who combine resources at hand to chase new

opportunities which could result in an innovative outcome (Senyard *et al.*, 2014; Stenholm and Renko, 2016; Davidsson *et al.*, 2017).

The main finding of this study was highlighting the positive relationships between the two emerging constructs of IEO with the bricolage mindset. Previous studies acknowledged such relationships, for instance, Stenholm and Renko (2016) approved a direct relationship between entrepreneurial passion and bricolage (as mediator variable to firm survival) (Stenholm and Renko, 2016). However, the present research investigated passion as one of the IEO constructs in the multidimensionality approach with the effect of other factors. Hence, entrepreneurial passion as one major feature of entrepreneurial trait and personality attitude influences IEO toward entrepreneurial action (Cardon *et al.*, 2013; Gerschewski *et al.*, 2016).

Finally, perseverance had a positive effect on bricolage. This specific trait has a degree of agreement with bricoleurs. Perseverance appears when individuals face obstacles and adverse situations (Gerschewski *et al.*, 2016; Santos *et al.*, 2020). This also happens when entrepreneurs are in resource-scarce environments – a high level of adverse situations in resource seeking processes (Davidsson *et al.*, 2017). These factors rely on individual behavior to enhance the application of IEO and entrepreneurial actions and behavior such as bricolage.

The present IEO construct represents a considerable issue to use the multidimensional viewpoint of EO. Individuals who face resource-constrained situations are more prudent in terms of taking risks and being proactive. This issue is consistent with studies in which represent the environmental aspects and the quality of risk-taking and proactiveness (Kreiser *et al.*, 2010). As such, this IEO construct is congruent with the individual-level of EO analysis and considering personal characteristics and attitudes in the specific business environment.

Conclusion

The current research investigated the multidimensional construct of IEO which included two emerging dimensions: passion and perseverance. A few studies explored the IEO-bricolage relationship which represents individual entrepreneurial traits and attitudes toward specific behavior in resource-constrained environments. Entrepreneurs with different characteristics (based on the new construct of five dimensions) can exhibit an adequate form of bricolage.

The contribution of this study is threefold: first, the IEO construct without the two new dimensions does not perfectly explain entrepreneurial bricolage in a resource-poor environment. In this vein, the current IEO construct is primarily associated with individual behavior and declares bricolage behavior more effectively. Second, research on IEO and specific entrepreneurial behavior (such as bricolage) declares more insights on entrepreneurial action. Most previous studies on IEO examine the causal relationship between IEO and the intention of individuals to start a new business. The current research provided a necessary step toward examining defined entrepreneurial endeavors. Third, university students in less developed countries who start a new business rely on their personality traits to resource acquisition in such economies. IEO-bricolage relationship furnishes a foundation for students to overcome their blocked mindset and/or start new ventures with individual attitudes and apply the available resources.

The study has some limitations that provide researchers with directions for further future research. The sample was selected from one university and only students who enrolled in entrepreneurship and business management courses. Future studies can use students in engineering faculties as well as other fields of study and different locations.

Moreover, the emerging dimensions of IEO can be analyzed for intrapreneurs and corporate entrepreneurship in large firms. Furthermore, IEO with the new dimensions could be used to investigate the mediating effect on firm performances.

References

- Baker, T. and Nelson, R.E. (2005), "Creating something from nothing: resource construction through entrepreneurial bricolage", *Administrative Science Quarterly*, Vol. 50 No. 3, pp. 329-366.
- Bolton, D.L. (2012), "Individual entrepreneurial orientation: further investigation of a measurement instrument", *Academy of Entrepreneurship Journal*, Vol. 18 No. 1, pp. 91-98.
- Bolton, D.L. and Lane, M.D. (2012), "Individual entrepreneurial orientation: development of a measurement instrument", *Education + Training*, Vol. 54 Nos 2/3, pp. 219-233.
- Boso, N., Story, V.M. and Cadogan, J.W. (2013), "Entrepreneurial orientation, market orientation, network ties, and performance: study of entrepreneurial firms in a developing economy", *Journal of Business Venturing*, Vol. 28 No. 6, pp. 708-727.
- Cardon, M.S., Gregoire, D.A., Stevens, C.E. and Patel, P.C. (2013), "Measuring entrepreneurial passion: conceptual foundations and scale validation", *Journal of Business Venturing*, Vol. 28 No. 3, pp. 373-396.
- Cho, Y.H. and Lee, J.-H. (2018), "Entrepreneurial orientation, entrepreneurial education and performance", *Asia Pacific Journal of Innovation and Entrepreneurship*, Vol. 12 No. 2, pp. 124-134.
- Covin, J. and Miller, D. (2014), "International entrepreneurial orientation: conceptual considerations, research themes, measurement issues, and future research directions", *Entrepreneurship Theory and Practice*, Vol. 38 No. 1, pp. 11-44.
- Covin, J.G. and Lumpkin, G.T. (2011), "Entrepreneurial orientation theory and research: reflections on a needed construct", *Entrepreneurship Theory and Practice*, Vol. 35 No. 5, pp. 855-872.
- Covin, J.G. and Wales, W.J. (2012), "The measurement of entrepreneurial orientation", *Entrepreneurship Theory and Practice*, Vol. 36 No. 4, pp. 677-702.
- Covin, J.G. and Wales, W.J. (2019), "Crafting high-impact entrepreneurial orientation research: some suggested guidelines", *Entrepreneurship Theory and Practice*, Vol. 43 No. 1, pp. 3-18.
- Covin, J.G., Rigtering, J.C., Hughes, M., Kraus, S., Cheng, C.-F. and Bouncken, R.B. (2020), "Individual and team entrepreneurial orientation: scale development and configurations for success", *Journal of Business Research*, Vol. 112, pp. 1-12.
- Davidsson, P., Baker, T. and Senyard, J.M. (2017), "A measure of entrepreneurial bricolage behavior", *International Journal of Entrepreneurial Behavior and Research*, Vol. 23 No. 1, pp. 114-135.
- Ferreira, F.A., Jalali, M.S., Bento, P., Marques, C.S. and Ferreira, J.J. (2017), "Enhancing individual entrepreneurial orientation measurement using a metacognitive decision making-based framework", *International Entrepreneurship and Management Journal*, Vol. 13 No. 2, pp. 327-346.
- Ferreira, F.A., Marques, C.S., Bento, P., Ferreira, J.J. and Jalali, M.S. (2015), "Operationalizing and measuring individual entrepreneurial orientation using cognitive mapping and MCDA techniques", *Journal of Business Research*, Vol. 68 No. 12, pp. 2691-2702.
- Fisher, G. (2012), "Effectuation, causation, and bricolage: a behavioral comparison of emerging theories in entrepreneurship research", *Entrepreneurship Theory and Practice*, Vol. 36 No. 5, pp. 1019-1051.
- Forcadell, F.J. and Úbeda, F. (2020), "Individual entrepreneurial orientation and performance: the mediating role of international entrepreneurship", *International Entrepreneurship and Management Journal*, pp. 1-26.
- Gerschewski, S., Lindsay, V.J. and Rose, E. (2016), "Advancing the entrepreneurial orientation construct: the role of passion and perseverance", *Review of International Business and Strategy*, Vol. 26 No. 4, pp. 446-471.

- Goktan, A.B. and Gupta, V.K. (2015), "Sex, gender, and individual entrepreneurial orientation: evidence from four countries", *International Entrepreneurship and Management Journal*, Vol. 11 No. 1, pp. 95-112.
- Guerrero, M., Liñán, F. and Cáceres-Carrasco, F.R. (2020), "The influence of ecosystems on the entrepreneurship process: a comparison across developed and developing economies", *Small Business Economics*, pp. 1-27.
- Gupta, V., Gupta, A. and Balasubramanian, S. (2015), "Book review the concept of entrepreneurial orientation", *Foundations and Trends® in Entrepreneurship*, Vol. 11 No. 2, pp. 55-137.
- Gupta, V.K., Niranjana, S., Goktan, B.A. and Eriskon, J. (2016), "Individual entrepreneurial orientation role in shaping reactions to new technologies", *International Entrepreneurship and Management Journal*, Vol. 12 No. 4, pp. 935-961.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2014), *Multivariate Data Analysis*, Pearson new international edition, Pearson Education Limited Harlow, Essex.
- Hunt, K.A. (2016), *Individual Entrepreneurial Orientation, Gender, and Involvement in Entrepreneurial Activities: A Study of Faculty at PA's Public Universities*, Grand Canyon University.
- Jelenc, L., Pisapia, J. and Ivanušić, N. (2016), "Demographic variables influencing individual entrepreneurial orientation and strategic thinking capability", *Journal of Economic and Social Development*, Vol. 3 No. 1, pp. 11-25.
- Kim, S. (2018), "Domains and trends of entrepreneurship research", *Management Review: An International Journal*, Vol. 13 No. 1, pp. 65-90.
- Koe, W.-L. (2016), "The relationship between individual entrepreneurial orientation (IEO) and entrepreneurial intention", *Journal of Global Entrepreneurship Research*, Vol. 6 No. 1, pp. 1-11.
- Koe, W.-L. (2019), "Individual entrepreneurial orientation and perceived employability among university graduates", *Proceedings of the Regional Conference on Science, Technology and Social Sciences (RCSTSS 2016)*, pp. 69-77.
- Kraus, S., Breier, M., Jones, P. and Hughes, M. (2019), "Individual entrepreneurial orientation and intrapreneurship in the public sector", *International Entrepreneurship and Management Journal*, Vol. 15 No. 4, pp. 1247-1268.
- Kreiser, P.M., Marino, L.D., Dickson, P. and Weaver, K.M. (2010), "Cultural influences on entrepreneurial orientation: the impact of national culture on risk taking and proactiveness in SMEs", *Entrepreneurship Theory and Practice*, Vol. 34 No. 5, pp. 959-984.
- Nair, S., Sundar, S. and Paramasivam, G.M. (2020), "Role of entrepreneurial education in nurturing entrepreneurial orientation among engineering students", *Asia Pacific Journal of Innovation and Entrepreneurship*, Vol. 14 No. 2, pp. 139-149.
- Nakku, V.B., Agbola, F.W., Miles, M.P. and Mahmood, A. (2020), "The interrelationship between SME government support programs, entrepreneurial orientation, and performance: a developing economy perspective", *Journal of Small Business Management*, Vol. 58 No. 1, pp. 2-31.
- Pallant, J. (2013), *SPSS Survival Manual*, (UK) McGraw-Hill Education.
- Rauch, A., Wiklund, J., Lumpkin, G.T. and Frese, M. (2009), "Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future", *Entrepreneurship Theory and Practice*, Vol. 33 No. 3, pp. 761-787.
- Salunke, S., Weerawardena, J. and Mccoll-Kennedy, J.R. (2013), "Competing through service innovation: the role of bricolage and entrepreneurship in project-oriented firms", *Journal of Business Research*, Vol. 66 No. 8, pp. 1085-1097.
- Santos, G., Marques, C.S. and Ferreira, J.J. (2020), "Passion and perseverance as two new dimensions of an individual entrepreneurial orientation scale", *Journal of Business Research*, Vol. 112, pp. 190-199.
- Senyard, J., Baker, T., Steffens, P. and Davidsson, P. (2014), "Bricolage as a path to innovativeness for resource-constrained new firms", *Journal of Product Innovation Management*, Vol. 31 No. 2, pp. 211-230.

-
- Shin, S. (2013), "Understanding organizational change into entrepreneurship: a theoretical frameworks and integration", *Management Review: An International Journal*, Vol. 8 No. 2, pp. 29-53.
- Smith, D.J. and Blundel, R.K. (2014), "Improvisation and entrepreneurial bricolage versus rationalisation: a case-based analysis of contrasting responses to economic instability in the UK brass musical instruments industry", *Journal of General Management*, Vol. 40 No. 1, pp. 53-78.
- Stenholm, P. and Renko, M. (2016), "Passionate bricoleurs and new venture survival", *Journal of Business Venturing*, Vol. 31 No. 5, pp. 595-611.
- Van Gelderen, M. (2012), "Perseverance strategies of enterprising individuals", *International Journal of Entrepreneurial Behavior and Research*, Vol. 18 No. 6, pp. 630-648.
- Voltan, A. (2019), "On the importance of being scrappy: entrepreneurial orientation and bricolage in social enterprises", PhD, Saint Mary's University.
- Wales, W.J. (2016), "Entrepreneurial orientation: a review and synthesis of promising research directions", *International Small Business Journal: Researching Entrepreneurship*, Vol. 34 No. 1, pp. 3-15.
- Wales, W.J., Covin, J.G. and Monsen, E. (2020), "Entrepreneurial orientation: the necessity of a multilevel conceptualization", *Strategic Entrepreneurship Journal*, Vol. 14 No. 4, pp. 639-660.
- Witell, L., Gebauer, H., Jaakkola, E., Hammedi, W., Patricio, L. and Perks, H. (2017), "A bricolage perspective on service innovation", *Journal of Business Research*, Vol. 79, pp. 290-298.

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