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## Article

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# Entrepreneurial orientation dimension affects firm performance: A perspective from the Malaysian furniture industry

Fazal Akbar, Rao Aamir Khan, Fazli Wadood, Abdul Talib Bin Bon

## ABSTRACT

**Objective:** The main objective of this study is to verify the impact of entrepreneurial orientation dimension on firm performance of furniture industry in Malaysia.

**Research Design & Methods:** In this study, we used a quantitative research method and collected data through a questionnaire from 391 furniture manufacturing company owners and managers, while following purposive sampling approach. The collected data was analysed using structural equation (Partial Least Square). To measure five entrepreneurial orientation dimensions, we adopted specific measuring instruments.

**Findings:** The study shows that the three dimensions of entrepreneurial orientation – i.e. innovation, risk-taking, and competitive aggressiveness – make unique statistical contributions to the considered model. Findings indicate low levels of autonomy and proactiveness. However, the entrepreneurial orientation and FP models significantly influence the unique contribution of individual entrepreneurial activities in the Malaysian furniture industry.

**Implications & Recommendations:** This article aims to fill the gaps in entrepreneurial orientation and performance literature within Malaysia's context. This article provides relationship information among performance and entrepreneurial orientation existence, allowing policy-makers and management interventions to improve OE levels.

**Contribution & Value Added:** This study indicates that there exists a strong entrepreneurial orientation among Malaysian manufacturers, which furthermore establishes and provides basis for future research, as entrepreneurial orientation strongly impacts firm performance. The article is the first one to study complete entrepreneurial orientation dimensions as uni-dimensional in Malaysian manufacturing context.

**Article type:** research article

**Keywords:** entrepreneurial orientation; furniture industry; Malaysia; firm performance; PLS-SEM

**JEL codes:** L20

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## INTRODUCTION

Entrepreneurial orientation playing a significant contribution towards the success of global entrepreneurs (Akbar, Bon, & Wadood, 2020; Aziz, Mahmood, Tajudin, & Abdullah, 2014). As entrepreneurial orientation got great attention and growing (Aziz *et al.*, 2014; Cámara, 2018; Gartner & Shane, 1995; Thornton, 1999; Žur, 2013). With the establishment of new companies, the world has become an entrepreneurial economy, and entrepreneurs are considered as champions of economic advancement and competition (Entebang, 2011; Sathe, 2004). Now, the ever-changing economic climate, all entrepreneurial strategies ought to be integrated into the strategic management framework (McGrath & MacMillan, 2000). A lot of work on entrepreneurial orientation endorse its important role towards economic and overall development (Ireland, Kyratko, & Morris, 2002). Entrepreneurial orientation applies to decisions concerning companies pursuing innovation, proactivity, risk-taking, autonomy and competitive motivation (Cools & Van den Broeck, 2007; Gartner & Shane, 1995; Lumpkin & Dess, 1996; Thornton, 1999). Appropriate applicability of these dimensions puts the company ahead of its competitors (Cámara, 2018; Quince & Whitaker, 2003). Many authors (such as Moreno & Casillas, 2008; Linton & Kask, 2017; Ebrahimi & Mirbargkar, 2017; Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015; Latif, Abdullah, & Jan, 2016) explore entrepreneurial orientation but not the complete five dimensions. EO requires more research despite of its significant consideration (Teles & Schachtebeck, 2019; Głodowska, Maciejewski, & Wach, 2019; Wach, Głodowska, & Maciejewski, 2018). The knowledge, training and skills that somebody can develop their business services are increasingly not known to emerging enterprise entrepreneurs (Joubert, 2007). Entrepreneurial orientation leads to success from business growth and financial results perspective. This situation presents the following challenges: to evaluate the influence of entrepreneurial direction on company outcomes, to validate the study-related past research.

Understanding entrepreneurship and entrepreneurial orientation are the fundamental characteristics of business creation and wider economic growth (Lumpkin & Dess, 1996; Rodriguez-Gutierrez, Fuentes-Fuentes, & Rodriguez-Ariza, 2013), their contribution towards unemployment (Birch, 1979; Birley, 1989; Cámara, 2018; Rambe & Mosweunyane, 2017), and a catalyst for technological innovation creation (Acs & Audretsch, 2005; Fellnhofer, 2018; Hisrich, 1988). Campos, la Parra, and Parellada (2012) work indicate that entrepreneurial environments have been seen as one of the unique fields in which entrepreneurial study has accrued expertise. Agreeing with Rauch, Wiklund, Lumpkin, and Frese (2009) that for several years the literature shows substantial trend towards entrepreneurship and strategic management. Entrepreneurial orientation outlines the decision-making process, strategies, and activities ensuring that entrepreneurs are in charge of setting up new companies (Lumpkin & Dess, 1996). In this case, it is not surprising that there is a good amount of literature studying the relationship among EO and SMEs performance (Avlonitis & Salavou, 2007; Cámara, 2018; Martin & Javalgi, 2016; Rauch *et al.*, 2009; Wang, 2008; Wiklund & Shepherd, 2005). The highly competitive and rapidly changing climate, the integration of entrepreneurial methods into the strategic management foundations is required. Entrepreneurial orientation leads to the results from business growth and financial performance perspective. This situation poses the challenge of deterring the

effect of entrepreneurial orientation on company results, confirming past study-related research and noting the effect, if any, on inadequate market knowledge or management.

Furniture manufacturing is Malaysia's fastest-growing timber subsector industry which contributes 8% towards GDP of Malaysia (Akbar *et al.*, 2017). The industry's socio-economic significance is evident, as it has generated approximately 2.5 billion USD in currency while providing a significant number of participating employees with job opportunities (Akbar, Razak, Wadood, & Al-subari, 2017). The key issues raised were the lack of competitiveness and insufficient technology and innovation (Ratnasingam, Yoon, Mohamed, & Kassim, 2013). However, in recent years, Malaysian furniture manufacturers have been increasingly competing with other cheap furniture manufacturers, notably China and Vietnam (Ratnasingam *et al.*, 2013). Malaysian furniture manufacturers, therefore, need to adopt strategies that can increase productivity, competitiveness and innovation (Akbar *et al.*, 2017). As a result, this situation has led researchers to carry out detailed research on issues, to provide possible solutions to pressing issues, to support innovation and to foster entrepreneurial culture in the furniture manufacturing sector. In this regard, policy makers are advised on the basis of real-world data from the Malaysian furniture industry.

## LITERATURE REVIEW

Entrepreneurial orientation is one of the focused areas of corporate entrepreneurship (CE) strategy (Ireland *et al.*, 2009). Furthermore, they emphasise that Entrepreneurial orientation is expressed, by entrepreneurial courses and behaviours, as state or organizational eminence within the business. And various styles and characteristics of many organizations strategies would remain dependent events of EO efficiency (Covin & Slevin, 1991; Lumpkin & Dess, 1996), in addition, entrepreneurial orientation should be regarded as an essential component of a specific and identifiable strategic element, such as the organization's enterprise strategy.

Contingency theory is the basic theory in the field of entrepreneurial orientation, that entrepreneurship must be consistent with the background in order to achieve better results (Wiklund & Shepherd, 2005; Lumpkin & Dess, 1996). Furthermore, Lumpkin and Dess (1996) suggested that entrepreneurial orientation should be consistent to a number of diverse situational factors, such as External (environmental) and internal (organizational) factors. For example, organizational factors may be resources, processes, strategy and structure, while external (environmental) factors can be the marketplace, business, and environmental characteristics. Contingency fit can be viewed as a humble theory: better firm performance would benefit from the relationship between entrepreneurship and contextual factors. Although it appears after reviewing the literature on the entrepreneurial orientation that the contingency function has been theorized in several different forms, which is the core concept of contingency theory, that continuity or 'fit' between the major variables for instance organizational procedures and industrial conditions which is essential to achieve optimum efficiency (Lawrence & Lorsch, 1967). The theory of contingency elucidates the relation among the variables dependent on the level of the third variable.

The inclusion of moderators in bivariate relation facilitated to minimize the risk of unclear consequences and allows for a 'more detailed and accurate interpretation' of con-

tingency relationships (Rosenberg, 1968, p. 100) as cited in (Venkatraman, 1989). Consequently, we analysed the potential strength of the relationship among EO and firm performance with the aim to explain the disparity in results between studies.

### **Research Assessment Model and Hypotheses Development**

The structure and relationship between these will be defined in detail in this section, as displayed in Figure 1 of the study evaluation model. Explanation of the model aims to understand clearly the bind relationship among the constructs of entrepreneurial orientation and firm results. This will enable the design to be operationalized according to the specifics of the current study, and then enable the research hypotheses to be developed.

### **Relationship Between EO Dimensions and Firm Performance**

In past literature, the relations among EO and company performance has become the main concern (Sethi, Iqbal, & Sethi, 2012). Rauch *et al.* (2009), stated that companies adopt EO may execute well than firms that embrace a conservative approach. Primarily, people may question the prominence of EO to business achievement. Therefore, prior research has revealed that EO can significantly advance the company's performance (Wiklund & Shepherd, 2005; Lyon, Lumpkin, & Dess, 2000; Lumpkin & Dess, 1996; Covin & Slevin, 1989). The following Table 1 shows the taxonomy of different studies of EO and firm performance.

Several studies on entrepreneurial orientation and firm performance suggest positive outcomes (Arshi, 2016; Chow, 2006; Coulthard, 2007; Keh, Nguyen, & Ng, 2007; Madsen, 2007; Wolff & Pett, 2006; Wiklund & Shepherd, 2005; Lee, Lee, & Pennings, 2001; Wiklund, 1999; Zahra & Covin, 1995; Zahra, 1991). Nevertheless, there is no doubt that there are studies that show EO has not brought positive results to a company's performance (Naldi *et al.*, 2007; Morgan & Strong, 2003; Matsuno, Mentzer, & Özsoy, 2002; Smart & Conant, 1994). Therefore, very few studies agree that – under different circumstances – EO drives direct and indirect effects of company performance under controlled circumstances (Arshi, 2016; Couppey & Roux, 2007; Kellermanns, Eddleston, Barnett, & Pearson, 2016; Zahra, 2008). Hence, numerous studies show close links between entrepreneurial orientation and firm performance, which emphasises the need for an in-depth study of EO, especially such dimensions as autonomy, innovativeness, proactiveness, competitive aggressiveness, and risk-taking, as identified by Dess and Lumpkin (2005). Therefore, we hypothesise that:

**H1:** Entrepreneurial orientation affects firm performance.

### **Innovativeness and Firm Performance**

Innovation received much attention from the scholarship because it is the main foundation of entrepreneurial activities (Drucker, 2002). Many researchers find that a company's internal innovation is positively correlated with the total success and impartial measures of company performance, including ROI, ROA, ROS (Calantone, Cavusgil, & Zhao, 2004). Empirical studies of Spanish SME's reveal that a firm's innovation is largely associated with organisation growth, e.g. in term of assets, sales, and job growth (Casillas & Moreno, 2010). Other studies show a significant relationship between process innovation and overall organisation growth (Wadood *et al.*, 2013; Klomp & Van Leeuwen, 2001). Moreover, new product development also shows positive impact on overall firm performance (Li & Calantone, 1998). A research held in Taiwanese small and medium enterprises, similarly establishes that – among

other things – innovative SMEs are high performing (Wang & Yen, 2012). The results of Pakistani companies are similar to those of previous findings (Hameed & Ali, 2011), South Korea (Hong, Song, & Yoo, 2013), and Istanbul (Turkey) (Karacaoglu, Bayraktaroglu, & San, 2013). A recent Iranian study found that innovation is the most appropriate dimension to positively affect company performance (Cannavale & Nadali, 2019).

**Table 1. Taxonomy of conceptual and empirical literature on EO and performance**

Names of Authors	Title of Paper	Country of Research	Year
Covin & Slevin,	'A conceptual Model of Entrepreneurship as Firm Behavior'	United States	1991
Zahra	'A Conceptual Model of Entrepreneurship as Firm behavior: A Critique and Extension'	United States	1993
Lumpkin and Dess	'Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance'	United States	1996
Wiklund,	'The Sustainability of Entrepreneurial Orientation-Performance Relationship'	United States	1999
Lumpkin and Dess	'Linking Two Dimensions of Entrepreneurial Orientation to Firm Performance: The Moderating Role of Environment and Industry Life Cycle'	United States	2001
Wiklund and Shepherd	'Knowledge-based Resources, Entrepreneurial Orientation, and Performance of Small and Medium-sized Businesses.'	Sweden	2003
Wiklund and Shepherd	'Entrepreneurial Orientation and Small Business: A Configurational Approach'	Sweden	2005
Harun Kaya and Veytsel Ağca	'Entrepreneurial Orientation and Performance of Turkish Manufacturing FDI Firms: An Empirical Study'	Turkey	2009
Rauch, Wiklund, Lumpkin and Frese	'Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestions for the Future'	----	2009
Khalili, Nejadhussein, and Fazel	'The Influence of Entrepreneurial Orientation on Innovative Performance'	Iran	2013
Aziz <i>et al.</i>	'The Relationship Between Entrepreneurial Orientation and Business Performance of SMEs in Malaysia'	Malaysia	2014
Naldi, Nordqvist, Sjöberg, and Wiklund	'Entrepreneurial Orientation, Risk-Taking, and Performance in Family Firms'	Sweden	2007
Wales, Parida, and Patel	'Nonlinear Effects of Entrepreneurial Orientation on Small Firm Performance: The Moderating Role of Resource Orchestration Capabilities'	----	2013
Van Dorn, and Volberda	'Entrepreneurial orientation and firm performance: The role of the senior team'	----	2009
Chiara Cannavale and Iman Zohoorian Nadali	'Entrepreneurial Orientations and Performance: A Problematic Explanatory Approach in the Iranian Knowledge-Based Industry'	Iran	2018
Akbar <i>et al.</i>	'Open Innovation Mediates the Relationship between Entrepreneurial Orientation and Firm Performance: A Preliminary Survey'	Malaysia	2020

Source: own study.

Big established companies have always embraced innovation and have been driven by the development of new products, which led to constant changes in their product lines (O'Connor & DeMartino, 2006). Innovation might be new to the world and can construct entirely fresh markets. Companies with the ability to provide multiple product lines and excellent technical support within the organisation will receive greater economic returns (Cannavale & Nadali, 2019; Sorescu, Chandy, & Prabhu, 2003). Therefore, by taking advantage of opportunities in emerging markets, innovative strategic positions are considered to have a positive impact on company performance. Therefore, we hypothesise that:

**H1a:** Innovativeness affects firm performance.

### **Proactiveness and Firm Performance**

A proactive company will benefit from its position as the driving force because it can take advantage of market opportunities (Ambad & Wahab, 2013). According to Lumpkin and Dess (1996), the introduction of new product or service enhances firm revenue and has the advantage of building brand awareness. Taking the lead in introducing products/services will build customer consistency because of high transaction expenses. The capability to foresee future difficulties, needs, or changes enables companies to form the atmosphere and course of opposition from which they can benefit (Morgan & Strong, 2003). Nevertheless, Coulthard (2007) shows that – compared with companies established in the franchise industry – startups are more suitable to employ proactiveness. This may be due to the size of the company, because larger companies have more pronounced bureaucracy and cannot take advantage of being first movers in the market (Meuer & Rupiotta, 2015).

Furthermore, Lumpkin and Dess (1996) state that proactive companies not only actively seek opportunities but also actively respond to competitors. This comportment permits the company to face competitors and achieve excellent performance. Proactive companies are closely aware of market gestures, access to unusual means, and a firm commitment to improving products/services, so they can all achieve great performance revenues (Day & Wensley, 1988; Wright, Kroll, Pray, & Lado, 1995). Among Spanish SMEs, the more proactively a company develops to gain new business opportunities, the higher its growth rate (Casillas & Moreno, 2010). Furthermore, proactiveness also shows great impact in sales increase in small businesses in the USA (Becherer & Maure, 1999; another, similar study on Taiwanese SMEs shows similar results; Wang & Yen, 2012). There are also positive results of proactivity from the Iranian technology-based industry, and its stronger impact on firm performance (Cannavale & Nadali, 2019). Therefore, we hypothesise that:

**H1b:** Proactiveness affects firm performance.

### **Risk-Taking and Firm Performance**

A trend that changes from a predictable situation to an unpredictable trend is a risky behaviour, in which case we may take advantage of the opportunity and invest a lot of resources with little knowledge of the new situation (Wiklund & Shepherd, 2005; Covin & Slevin, 1991). The finding of the study on 167 New Zealand companies suggests that greater risk results in higher financial performance. The most recent study of Cannavale and Nadali (2019) on Iranian technological SMEs supports this arguments and shows positive relationship between risk taking activities with firm performance. A similar relationship appears in the study by Wang and Yen (2012) on SMEs in mainland China, whose risk taking strategy positively im-

pacts overall firm performance. Rauch *et al.*'s (2009) meta-analysis shows that there is a positive correlation between risk-taking behaviour/approach and firm performance.

In a nutshell, risk-taking behaviour strongly impacts overall firm performance. As companies invest their resources in new projects, they take financial risks which may pay back with high returns, thus increasing firm resources. Therefore, we hypothesise that:

**H1c:** Risk-taking affects firm performance.

### Autonomy and Firm Performance

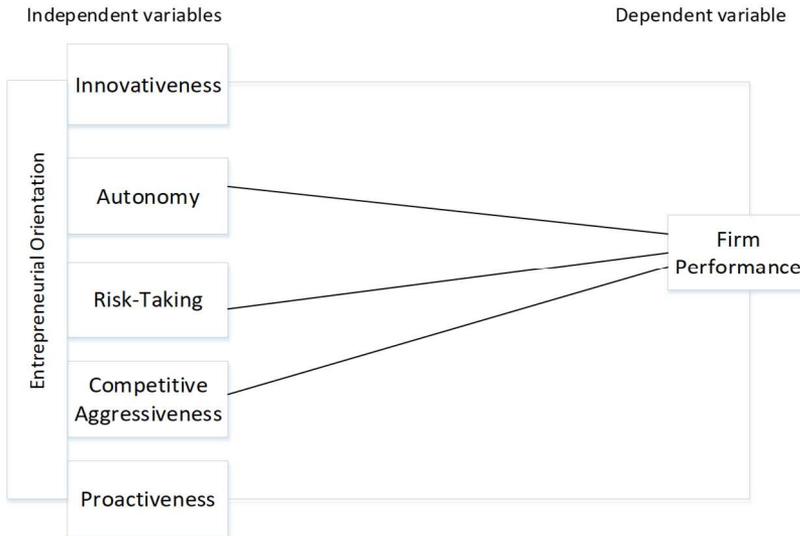
The empirical discoveries associated with autonomy, namely entrepreneurial orientation dimension, result, and conclusion appear to be inconsistent in the study by Yu, Lumpkin, Praveen Parboteeah, and Stambaugh (2019). Chen, Neubaum, Reilly, and Lynn (2014) and Jancenelle, Storrud-Barnes, and Javalgi (2017) show a positive correlation among autonomy and firm performance. However, some studies do not find substantial autonomy performance ratio (Lechner & Gudmundsson, 2014; Hughes & Morgan, 2007). Since EO-autonomy field appears self-contradictory and different studies reveal different and mixed results (Zellweger & Sieger, 2012; Short *et al.*, 2009), we focus on the study of companies based on EO and the relationship among autonomy and firm performance. Numerous scholars – among others, Cogliser and Schneider (2009), Lumpkin and Prottas (2008), and Coulthard (2007) – recommend that permitting autonomy to all participants in an organisation can motivate and encourage action in an entrepreneurial manner, thereby improving company performance. As we discovered, autonomy is an element of entrepreneurial orientation, and it participates in its basic theoretical assumptions that – in an appropriate configuration – what shows positive impact are higher EO levels and other crucial elements such as strategy, environment, and structure (Rauch *et al.*, 2009). Hence, we conclude that there is strong correlation between entrepreneurial orientation and firm performance. Therefore, we hypothesise that:

**H1d:** Autonomy affects firm performance.

### Competitive Aggressiveness and Firm Performance

Competitive aggressiveness is considered to be an establishment's ability to execute superior strength than opponents (Yu *et al.*, 2019; Kuivalainen, Sundqvist, & Cadogan, 2010). It is categorised as a positive response to modest threats (Rauch *et al.*, 2009) and competitive behaviour (Lyon *et al.*, 2000). Although Lumpkin and Dess (2001) find no significant direct correlation between competitive aggressiveness and firm performance. However, some studies speculate that there is a relationship between competitive aggressiveness and organisational performance – especially internationally – and this dimension still exists and is considered an active element of EO (Yu *et al.*, 2019; Kuivalainen *et al.*, 2010). In a meta-analysis on competitive aggressiveness with regard to firm performance, Hughes-Morgan, Kolev, and Mcnamara (2018) find that there is a positive correlation among these variables. Another study by Kljucnikov, Belas, and Smrcka (2016) discover that majority of entrepreneurs seeing their behaviour as non-aggressive. According to the study by Zahra and Covin (1995), the behaviours shown can help a company compete with other companies in the market, therefore improving own overall performance. Hence, the above discussion leads towards the following expected relationship:

**H1e:** Competitive aggressiveness affects firm performance.



**Figure 1. Research framework**

Source: own elaboration.

## RESEARCH METHODOLOGY

The model and pattern of research can represent the way of thinking in a defined system (Teles & Schachtebeck, 2019). In this article, we adopt a post-positivist approach for its objective nature and so as to interact with respondents as little as possible. The main motivation of the study following the post-positivist approach is to allow researchers to repeat and verify the obtained findings in the future (Teles & Schachtebeck, 2019). The data was collected from owners and managers of furniture manufacturing companies in Johor, Malaysia. However, we observed in sample selection that the companies must have been registered with the Federation of Johor Furniture Manufacturers and Traders Association. The reason for selecting the study sample from Johor was that most furniture establishments are located in that state.

An online questionnaire was prepared and sent to the managers of various furniture companies to collect empirical data. The questionnaires were also printed and delivered to managers. The survey consisted of two sections, i.e. demographic questions, which consist of company age, size, and location and the experience, education, and position of respondents. The second section consisted of 33, five-point Likert-scale questions about the six constructs identified in this study. The existing scale is derived from previous studies after extensive literature research. Entrepreneurial orientation construct items are based on Akbar *et al.* (2020), Arshi (2016), Dai, Maksimov, Gilbert, and Fernhaber (2014), Matchaba-Hove, Farrington, and Sharp (2015), and Tajeddini (2013). The items under the firm performance were taken from the study by Akbar *et al.* (2017, 2020), Matchaba-Hove *et al.* (2015), Nasir (2013), and Rajapathirana and Hui (2017). The questionnaire containing these items can be

found in Appendix A. In this study, 600 questionnaires were distributed in Johor. However, only 432 questionnaires were returned. Due to many missing sections in some questionnaires, the totals of 391 samples were selected for further assessment. PLS was used to conduct SEM. Table 2 below displays the questionnaire administration of participants.

**Table 2. The analysis of questionnaires administration**

Questionnaire characteristics	Frequency	Percentage
Total questionnaire administered	600	100%
Total retrieved	432	72%
Total valid	391	65.1%
Effective sample	391	65.1%

Source: own study.

Male respondents accounted for 57.3% of the sample, female respondents accounted for 42.7%. Forty-two point five per cent of the total respondents were in companies aged between one and four years, followed by 32% aged between five and nine years, 19.7% aged 10-14 years, and 5.8% aged 15 years. To be precise, 52.9% of the companies were large companies with more than 200 employees, while medium-sized companies accounted for 40.8%. The respondents' answers to small companies – less than 75 employees – accounted for 6.3%. Respondents' positions in the company indicated that 36.4% were middle management, 34.71% – top management, and 28.88% – lower management. The educational background of the respondents showed that 54.9% had a master's degree, 35% held Bachelor degree, and 7.3% had a high school diploma, while 2.9 percent had a PhD. The working experience of the respondents showed that 65.3% worked from one to five years, 17.7% worked from six to 10 years, while 16% worked 11-15 years in the same company. The percentage-wise establishment of companies in Johor state is 45.1% in Muar, 20.9% Segamat, 16.3% in Batu Pahat, 11.2% in Kulang, and 6.6% in Johor Bharu.

## RESULTS AND DISCUSSION

The research evaluation model introduced in the previous section has been verified using the PLS-SEM method. The evaluation of conceptual and theoretical models in PLS-SEM involves a two-stage method internal model (measurement model) and then an external model (structural model). The main motivation for and essence of validating the model using this approach was to empirically gauge its performance with existing criteria that underpin the validation of measurement and structural models.

### Measurement (Inner) Model Assessment

By evaluating the reliability of individual items, we used to evaluate the measurement model the Cronbach's alpha and reliability, convergence validity, the internal consistency of composite, and discriminant validity. Furthermore, to in-depth evaluate the measurement model, we applied the PLS algorithm process used to verify the validity and reliability of the construct, which consists of convergence and discriminative validity and the loadings of all indicators in their respective constructs (Urbach & Ahlemann, 2010). Figure 2 below shows the items load and Average Variance Extraction (AVE) values of the constructs. Table 3 below shows the outer loadings of the measurement model. All constructs

AVEs exceed the threshold of 0.50. Although except for three items, the loadings are close to or greater than 0.7 – that is, more than 0.5 – if the AVEs is achieved, the lower loadings items can be retained Hair, Ringle, and Sarstedt (2011).

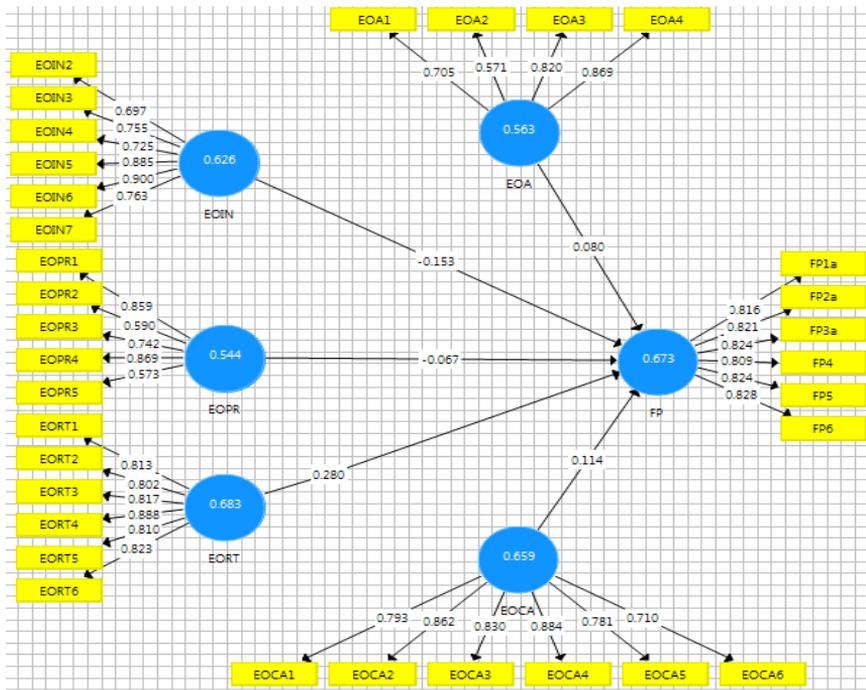


Figure 2. Measurement model

Source: own elaboration.

Table 3. Reliability of measurement (inner) model

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Autonomy	0.799	0.834	0.563
Competitive Aggressiveness	0.897	0.920	0.659
Innovativeness	0.903	0.909	0.626
Proactiveness	0.854	0.853	0.544
Risk-Taking	0.907	0.928	0.683
Firm Performance	0.903	0.925	0.673

Source: own study.

Individual reliability studies showed that the observed variables reached the minimum required level ( $\lambda \geq 0.70$ ). Therefore, we recognised that these indicators are part of their corresponding constructs (Hair, Hult, Ringle, & Sarstedt, 2017). Composite reliability (CR) study showed that all values were higher than 0.70 (Table 3). The results showed that the measurement model was internally consistent with the findings of Hair *et al.* (2011) that all observed indicators or variables are measuring their corresponding latent variables.

By checking the factorial load of the project and its importance, the AVE and the number of iterations of the measurement model convergence were evaluated for convergence validity (Hair *et al.*, 2017; Ali Memon, Ting, Ramayah, Chuah, & Cheah, 2017; Wong, 2013; Hair *et al.*, 2011). The element must bear a higher load on its basic construct and must not bear a higher load on other structures to achieve the effectiveness of convergence. The findings of Hair *et al.* (2017) suggest that to achieve good convergence validity, the factor load must be greater than 0.7. Thus, it is recommended to delete elements with a load of less than 0.4 from the model (Hair *et al.*, 2011). Therefore, all items with load less than 0.4 were removed. Similarly, according to the proposal of Hair *et al.* (2013), items with a lower load but higher than 0.4 were retained, when the AVE value reaches the suggested edge of 0.5 or higher. The AVE is a large average value that measures the total square load of the indicators in the model, which is similar to the commonality of the constructs (Hair *et al.*, 2017; 2011). The basic assumption is that the average covariance between indicators must be positive. To achieve the effectiveness of convergence, at least 50% of all measurement models must be explained by model indicators (Memon *et al.*, 2017). Thus, the threshold for AVE is recommended to be at least 0.5 (Brooks & Brooks, 1993; Bryman, 2015; Hair *et al.*, 2011; 2017; Pituch & Stevens, 2016; Shah & Goldstein, 2006; Vinzi, Chin, Henseler, & Wang, 2010; Wong, 2013).

Table 4 shows that the maximum factor loads are greater than 0.6, and they are significant ( $t\text{-start} > 1.96$ ;  $p\text{-value} < 0.005$ ). Overall, there are three items with the load below 0.6, but these items are retained as described by Hair *et al.* (2017), if the AVE reaches the recommended threshold. Similarly, Figure 2 and Table 3 show measurement models of the AVE for variables autonomy (0.563), competitive aggressiveness (0.659), innovativeness (0.626), proactiveness (0.544), risk-taking (0.683), and firm performance (0.673). All AVEs above keep the suggested minimum value of 0.5 (Memon *et al.*, 2017; Hair *et al.*, 2011). All factor loads of the outer load of the study variable are in less than 10 iterations, far below the maximum of 300 iterations (Wong, 2013). Therefore, the convergence validity of the research measurement model is established.

Discriminant validity shows that there is significant difference among the constructs which are not included in the theory. According to Fornell and Larcker (1981), it is the first time introduces the method to verify that the square root of the extracted average variance (AVE) – on the diagonal of Table 5 – is higher than the communal variance among the construction and former model constructs. No data can be found along the diagonal of Table 5 (Mason & Perrault, 1991).

**Table 4. Factor loadings of measurement model**

Variable	EOA	EOCA	EOIN	EOPR	EORT	FP
EOA1	0.705					
EOA2	0.571					
EOA3	0.820					
EOA4	0.869					
EOCA1		0.793				
EOCA2		0.862				
EOCA3		0.830				
EOCA4		0.884				
EOCA5		0.781				

Variable	EOA	EOCA	EOIN	EOPR	EORT	FP
EOCA6		0.710				
EOIN2			0.697			
EOIN3			0.755			
EOIN4			0.725			
EOIN5			0.885			
EOIN6			0.900			
EOIN7			0.763			
EOPR1				0.859		
EOPR2				0.590		
EOPR3				0.742		
EOPR4				0.869		
EOPR5				0.573		
EORT1					0.813	
EORT2					0.802	
EORT3					0.817	
EORT4					0.888	
EORT5					0.810	
EORT6					0.823	
FP1						0.816
FP2						0.821
FP3						0.824
FP4						0.809
FP5						0.824
FP6						0.828

EOA, Entrepreneurial Orientation Autonomy, EOCA, Entrepreneurial Orientation Competitive Aggressiveness, EOIN, Entrepreneurial Orientation Innovativeness, EOPR, Entrepreneurial Orientation Proactiveness, EORT, Entrepreneurial Orientation Risk-Taking, FP, Firm Performance.

Source: own study.

**Table 5. Discriminant validity Fornell-Larcker criterion**

Variable	EOA	EOCA	EOIN	EOPR	EORT	FP
EOA	0.750					
EOCA	0.501	0.812				
EOIN	-0.190	-0.225	0.791			
EOPR	-0.021	0.044	0.064	0.738		
EORT	0.282	0.368	0.191	-0.215	0.826	
FP	0.246	0.288	-0.144	-0.133	0.330	0.820

EOA, Entrepreneurial Orientation autonomy, EOCA, Entrepreneurial Orientation Competitive Aggressiveness, EOIN, Entrepreneurial orientation Innovativeness, EOPR, Entrepreneurial Orientation Proactiveness, EORT, Entrepreneurial Orientation Risk-taking, FP, Firm Performance.

Source: own study.

Moreover, to further verify the realisation of the validity of the discrimination, we used the method of Heterotrait-Monotrait (HTMT). The HTMT method is considered to be the most conservative and appropriate standard for evaluating discriminant validity (Henseler & Sarstedt, 2013). The decision rule for establishing discriminant validity in the

HTMT method is that all correlations among the construct of concern and the remaining constructs are less than 0.85 ( $r < \text{HTMT}_{0.85}$ ; Henseler, Ringle, & Sinkovics, 2009; Kline, 1994). The result of HTMT associated with the construct in the research model is provided in Table 6 below. All reported values are lower than the  $\text{HTMT}_{0.85}$  standard, which further proves the realisation of the validity of discrimination.

**Table 6. The Heterotrait-Monotrait ratio (HTMT)**

Variable	EOA	EOCA	EOIN	EOPR	EORT	FP
EOA						
EOCA	0.593					
EOIN	0.378	0.241				
EOPR	0.198	0.093	0.316			
EORT	0.262	0.401	0.226	0.226		
FP	0.218	0.301	0.117	0.128	0.354	

EOA, Entrepreneurial Orientation autonomy, EOCA, Entrepreneurial Orientation Competitive Aggressiveness, EOIN, Entrepreneurial orientation Innovativeness, EOPR, Entrepreneurial Orientation Proactiveness, EORT, Entrepreneurial Orientation Risk-taking, FP, Firm Performance.

Source: own study.

Besides, when the cross-factor load matrix is obtained (Chin, 2010), the results show that the correlation between these indicators and their construct is higher than that between other indicators.

### Structural (Outer) Model Assessment

The validity of the measurement model was met according to the recommended standards, thus achieving the first stage of the two-stage PLS-SEM evaluation process. Structural model evaluation is a five-stage process involving collinearity evaluation, the significance test of relationship between structural models,  $R^2$  level evaluation, effect-size evaluation, and final evaluation as the predicted correlation of the model (Hair *et al.*, 2011). Figure 3 below illustrates t-values of the structural model with corresponding path coefficients and factor loadings.

We sought to estimate the hypothetical relationship between potential endogenous constructs (firm performance) and exogenous constructs (autonomy, innovativeness, competitive aggressiveness, risk-taking, and proactiveness) through path coefficients in the structural model. Path coefficients close to +1 are considered to characterise a robust positive correlation, while path coefficients tending to -1 represent – a strong negative relationship (Hair *et al.*, 2017; 2011). The importance of path estimation was determined by bootstrapping process in Smart PLS-SEM software, using the critical t-value of the important test with an importance level of 5% (default setting).

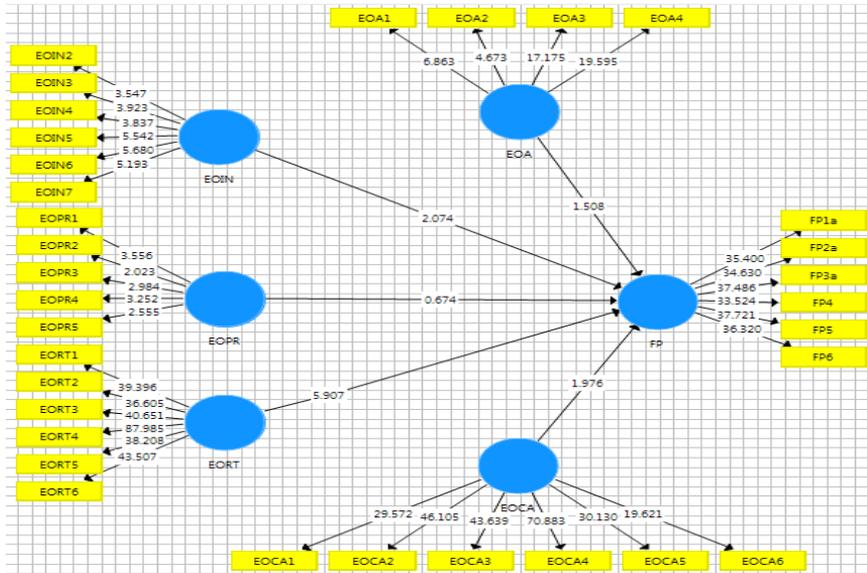


Figure 3. Structural model

Source: own elaboration.

Table 7. Path coefficients

Variable	Beta	Standard Deviation	T-Statistics	P-Values	f <sup>2</sup>	Decision
EOA -> FP	0.080	0.053	1.508	0.066	0.006	Not supported
EOCA -> FP	0.114	0.057	1.976	0.024	0.010	Supported
EOIN -> FP	-0.153	0.074	2.074	0.019	0.023	Supported
EOPR -> FP	-0.067	0.099	0.674	0.250	0.005	Not Supported
EORT -> FP	0.280	0.047	5.907	0.000	0.067	Supported

EOA, Entrepreneurial Orientation autonomy, EOCA, Entrepreneurial Orientation Competitive Aggressiveness, EOIN, Entrepreneurial orientation Innovativeness, EOPR, Entrepreneurial Orientation Proactiveness, EORT, Entrepreneurial Orientation Risk-taking, FP, Firm Performance.

Source: own study.

Table 7 above demonstrates the path coefficients ( $\beta$ ) and respective values of t-values, p-values, and  $f^2$ . The highest positively significant path relationship is the relationship between risk-taking and firm performance ( $\beta = 0.280$ ,  $t = 5.907$ ,  $p < 0.05$ ), while the other positive relationship is that among competitive aggressiveness, innovativeness, and firm performance, with scores  $\beta = 0.114$ ,  $t = 1.976$ ,  $p < 0.05$  and  $\beta = -0.153$ ,  $t = 2,074$ ,  $p < 0.05$ . Conversely, we also found substantial negative relationship among autonomy, proactiveness, and firm performance, with scores of  $\beta = 0.080$ ,  $t = 1.508$ ,  $p > 0.05$  and  $\beta = -0.067$ ,  $t = 0.647$ ,  $p > 0.05$ .

According to Cohen, Manion, and Morrison (2013) R-squared values ranging from 0.1 to 0.12 reflect a weak relationship, values from 0.13 to 0.25 reflect a moderate relationship, and values of 0.26 or higher are generally considered substantial as a rule of thumb. Since the purpose of PLS-SEM is to explain the endogenous potential variance,

the key goal is to have a higher R-squared. After all, the adequacy of R-squared depends on the investigation background (Hair *et al.*, 2011).

The maximum R-square value of a firm's performance of 0.176 shows that the independent variables explain 17.6% of the firm's performance difference. The  $f^2$  measures the change in  $R^2$  due to the omission of the specific exogenous construct in the model. The  $f^2$  is used to measure the effect of a singular exogenous construct on the  $R^2$  value of an endogenous construct (Hair *et al.*, 2017). The effect magnitude is measured in the light of and following guidelines by Cohen (1988), in which  $f^2$  values effects are considered to be small (0.02), medium (0.15), and large (0.35). The result indicates effect sizes of competitive aggressiveness ( $f^2 = 0.023$ ), innovativeness ( $f^2 = 0.023$ ), and risk-taking ( $f^2 = 0.067$ ), which are slightly below moderate effect benchmark but higher than the small effect threshold. The  $f^2$  value for autonomy and proactiveness has zero or below the small threshold effect sizes on  $R^2$  values.

### Discussion

The tested structural model provides some evidence that organisation performance is largely associated with the size of entrepreneurial orientation in Malaysian's furniture industry. It shows that improving entrepreneurship requires the full understanding of current trends and market demands. The study confirmed hypothesis H1a: innovativeness has significant positive relation with regard to firm performance ( $\beta = -0.1530$ ,  $t = 2.074$ ,  $p < 0.019$ ). This finding is consistent with that of Cannavale and Nadali (2019), who state that innovation is the main appropriate dimension of EO to positively affect performance. The introduction of new developments in the market helps companies to gain and understand competition. Hypotheses H1c and H1e are the other influential items of EO – i.e. risk-taking and competitive aggressiveness – which significantly influenced firm performance ( $\beta = 0.280$ ,  $t = 5.907$ ,  $p < 0.000$ ;  $\beta = 0.114$ ,  $t = 1.976$ ,  $p < 0.010$ ). The risk-taking findings agree with many studies (Gibb & Haar, 2010; Cannavale & Nadali, 2019; Wang & Yen, 2012) that greater risk conditions will result in higher financial performance. The willingness of companies to invest resources in high-risk, high-return projects will have the advantage of increasing resources. Hughes-Morgan *et al.* (2018) and Kljucnikov *et al.* (2016) agree with our conclusion of competitive aggressiveness and state that the organisation that shows aggressive behaviour in the market can compete with their counterparts. Hypotheses H1b and H1d consider two dimensions of EO – i.e. proactiveness and autonomy – that have influenced firm performance negatively ( $\beta = -0.067$ ,  $t = 0.674$ ,  $p < 0.250$ ) ( $\beta = 0.080$ ,  $t = 1.508$ ,  $p < 0.066$ ). Wang and Yen (2012) agree that an organisation's ability to foresee future difficulties, needs, and changes in the market to benefit from is important. Lumpkin *et al.* (2009) suggest that giving autonomy to employees may motivate them but will affect the performance. These findings of autonomy agree with results of Yu *et al.* (2019), who find inconsistent relationship in this regard. There are several reasons to explain the significant results of EO on FP. First, the manager of a furniture company must take risks and innovate in the provision of services to attract more customers and new markets. The aggressiveness of furniture managers is another factor that can attract more customers and a new entry into the market. The findings of our research agree with the current literature (Arshi, 2016; Tajudin *et al.*, 2014; Coulthard, 2007; Keh, Nguyen, & Ng, 2007; Madsen, 2007; Chow, 2006; Wolff & Pett, 2006; Wiklund & Shepherd, 2005; Wiklund, 1999; Cannavale & Nadali, 2019) that risk-taking and innovativeness have a

unique attraction in sustaining the furniture business, among other industries. The results provide an opportunity for future research to understand the importance of EO in the improvement of performance. In this research, EO focused on entrepreneurship and product manufacturer market issues in product handling and the services they provide, including issues related to consumers, competition, and cross-functional coordination. This finding was supported by Aziz *et al.* (2014) and Akbar *et al.* (2020) that EO can improve the performance of the furniture industry. Therefore, we confirmed that EO was essential for determining firm performance in the furniture industry.

## CONCLUSIONS

Our article refers to other authors' concerns and recommendations about the need to further research young people's entrepreneurial cycle in the furniture manufacturing field. This is important because entrepreneurship generates business and financial benefits, particularly for young people. It is a segment of export oriented industry with high purchasing power and impact. The interest in this field of research is also due to rapid innovation and rapid technology development, which is connected to the rapid changes in design and value.

We developed an entrepreneurial-oriented training model at the theoretical level, which is statistically significant and realistic, that furniture companies will be able to apply. The model contains dimensions of entrepreneurial orientation independent variables such as innovativeness, proactivity, autonomy, risk-taking, competitive aggressiveness, and the dependent variable of firm success. Many authors that we included find certain variables important and were never previously studied jointly. All of these observations and considerations improve the theoretical and practical awareness of entrepreneurship-driven research and training. The established Structural Equation Methodology (SEM) rigor helped us to generate a causal model that can sufficiently and completely predict the entrepreneurial orientation and firm results. This technique was successfully applied by other writers in the field of associated variables.

To control EO's impact on business success, we must understand the character of entrepreneurship in individual business positions and their mutual effect on firm results. The present literature indicates that there is a substantial transformation in the effect of entrepreneurship on the company's dissimilar functions; the effect on production tends to be almost absent. Furthermore, researchers discuss the influence of R&D, marketing, and sales separately. This article contributes to the scholarship by analysing how EO constructs have a dissimilar impact on business functions and how these functions form an internal value chain that defines the overall success of a company. Overall, most researchers can discover positive relationships with EO success that will improve over time, and they find several moderating factors that can strengthen this relationship. We hope our research ideas will provide the basis for further fruitful discussions and empirical research on EO concepts in different areas.

This work focuses on the particular segment of industry, which is a constraint. Future studies in other industries could validate our research outcomes and explore its generalisability in the industrial sector. Because of time and financial constraints, this study only targets Malaysia and cannot be applied to other countries, as each country has a different culture, and it is well established that culture influences the actions and approaches of individuals.

In this analysis, the dimensions of entrepreneurial orientation were analysed in a multi-dimensional manner, following Lumpkin's and Dess's (1996) research. Future re-examination can suggest testing our hypothesis on the basis of research ideas suggested by Covin and Slevin (1989). Hence, a single-dimensional structure was used jointly and created by battery indicators. To measure EO, there are different scales, while other measures may be used to determine whether the same results can be obtained. Future studies can be contrasted with varying scales, which will help to improve the comprehension of a scale's validity and, therefore, add to this vein of literature. Future research should also validate our work with various types of firms (such as non-profit firms), because they adopt a distinct cultural model from commercial firms and, therefore attract little attention from scholars (Cámara, 2018).

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