

Entrepreneurial orientation and firm performance: The mediation effect of open innovation in Malaysian furniture industry

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Abstract

Innovation and entrepreneurship are becoming key concepts for economic sustainable development in today's complex and dynamic business world. Economic, social and environmental sustainable development is significantly important for organization performance. Organizations need to respond to changing business environment, technological capabilities and customer demand. Open innovation is 'the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation'. Information is generated in the present, much more than earlier, through research with regard to the entrepreneurial businesses and improvement of methodologies in social sciences. Measuring Business Performance (BP) through the impact of Entrepreneurial Orientation (EO), and Open Innovation (OI), in today's economic environment is a critical issue for academic scholars and practicing entrepreneurs. In the recent years numerous disciplines have shown a keen interest in the three main constructs which have been used in many empirical research. Entrepreneurial orientation and open innovation can be considered as new tendency to evaluate the firm performance of ventures. The organizations are changing their business models from a traditional vertical integration model with internal research and development activities to an open business model.

Keywords: Entrepreneurial orientation, Open Innovation, Performance, Sustainable Development, Malaysia

Introduction to the study

Entrepreneurship, innovation, the environment, sustainability and internationalization are topics of great interest for the scientific community, companies and for all the main governments and

governmental institutions around the world (Akbar, Bon, & Wadood, 2020; Cámara, 2018). Today this is accentuated even more because of the globalized environment and the economic cycles that cross the countries where a company performs its economic activity (Akbar et al., 2020; Fabian, Molina, & Labianca, 2009; Raymond, St-Pierre, Uwizeyemungu, & Le Dinh, 2014).

It has been established that entrepreneurial orientation played an important role to the success of entrepreneurs throughout the world (Aziz, Mahmood, Tajudin, & Abdullah, 2014). The entrepreneurial phenomenon is on the rise and ever growing (Aziz et al., 2014; Cámara, 2018; Gartner & Shane, 1995; Thornton, 1999). Consequently, the overwhelming researches on the entrepreneurial orientation have led to recognition of entrepreneurial orientation as a major construct in the field of strategic management and entrepreneurship literature (Ireland, Hitt, & Sirmon, 2003). The entrepreneurial orientation refers to decision making with regards to the firm's strategy to embark on innovation, proactiveness, risk taking, autonomy and competitive aggressiveness (Cools & Van den Broeck, 2007; Gartner & Shane, 1995; Lumpkin & Dess, 1996; Thornton, 1999). The correct application of these dimensions keeps businesses ahead of their competitors (Akbar et al., 2020; Cámara, 2018; Quince & Whittaker, 2003). New venture entrepreneurs are becoming less aware of the knowledge, training and skills anyone can enhance their entrepreneurial skills (Joubert, 2007). Entrepreneurial orientation contributes to performance with an outlook on a company's growth as well as financial performance.

Understanding entrepreneurship and entrepreneurial orientation are fundamental characteristics for the development of companies and wider economic growth (Lumpkin & Dess, 1996; Rodriguez-Gutierrez, Fuentes-Fuentes, & Rodriguez-Ariza, 2013), both for their contribution to the solution to unemployment (Birch, 1979; Birley, 1989; Cámara, 2018; Rambe & Mosweunyane, 2017), and as well as the development of technological innovations (Acs & Audretsch, 2005; Fellnhofer, 2018, 2019; Hisrich, 1988). According to Campos, la Parra, & Parellada, (2012) entrepreneurial orientation has received substantial conceptual and empirical attention, representing one of the few areas in entrepreneurship research in which a cumulative body of knowledge is developing. Entrepreneurial orientation refers to the processes, practices, and decision-making activities used by entrepreneurs that lead to the initiation of an entrepreneurial firm (Lumpki & Dess, 1996). Against this backcloth it is not surprising that the

literature has numerous investigations that study the relationship between entrepreneurial orientation and performance in SMEs (Avlonitis & Salavou, 2007; Cámara, 2018; Martin & Javalgi, 2016; Rauch, Wiklund, Lumpkin, & Frese, 2009; Wang, 2008; Wiklund & Shepherd, 2005).

Similarly, innovation management is a field that needs further study by the scientific community (Akbar et al., 2020; Birkinshaw, Hamel, & Mol, 2008; Cámara, 2018; Carvalho, 2016). Various constructs have emerged within this field of research. Key amongst them emerged in 2003 and is labelled as ‘open innovation’. This construct is identified with collaboration and knowledge flows to accelerate innovation process within the literature (Chiesa & Manzini, 1997; Dalotă & Grigore, 2010; Granstrand, Patel, & Pavitt, 1997; Nelson & Winter, 1982; Powell, Koput, & Smith-Doerr, 1996; Veugelers & Cassiman, 1999). Open innovation has been embraced by the scientific community as a hot topic in the last decade (Cámara, 2018; Chesbrough & Bogers, 2014). According to Dodgson, Gann, & Salter, (2014), Josiah Wedgwood advocated the open innovation at propose in 1775 a cooperative program with other ceramists to solve a common technical problem. So, open innovation is practiced over the centuries. Why is open innovation prominent? Dahlander & Gann, (2010) provided four reasons. First, it reflects social and economic changes in working patterns, where professionals seek portfolio careers rather than a job-for-life with a single employer (Carvalho, 2016; Camara, 2018). Firms therefore need to find new ways of accessing talent that might not wish to be employed exclusively and directly. Second, globalization has expanded the extent of the market that allows for an increased division of labor. Third, improved market institutions such as intellectual property rights (IPR), venture capital (VC), and technology standards allow for organization to trade ideas. Fourth, new technologies allow for new ways to collaborate and coordinate across geographical distances.

The furniture manufacturing industry is the most rapidly growing sub-sector within the country’s wood-based sector, which contributes almost 8% to the total gross domestic product (GDP) of Malaysia (Akbar, Razak, Wadood, & Al-subari, 2017). The foremost concerns raised comprised the incapability to increase competitiveness, the deficiency in technology and innovations (Akbar et al., 2017; Ratnasingam, Yoon, Mohamed, & Kassim, 2013). In recent years however, Malaysian furniture manufacturers have come under increasing competitive pressure from other cheaper furniture producing nations particularly in China and Vietnam (Akbar et al., 2020;

Akbar, Razak, Omar, & Wadood, 2015; Ratnasingam et al., 2013). Therefore, it is important for Malaysian furniture manufacturers to embark on strategies that could boost their productivity, competitiveness and innovations (Akbar et al., 2017). In this regard, to provide recommendations to policy makers based on actual field data to bring the Malaysian furniture industry to lead globally.

Thus, a question that arises is what is the relationship between entrepreneurial orientation, open innovation and firm performance in Malaysian furniture industry? As a thesis, we expect that the dimensions of entrepreneurial orientation are drivers to the macro-process of open innovation, having both positive impact on firm performance. In addition, we expect that the macro process of open innovation will have a greater impact on firm performance than the entrepreneur-oriented dimension, because entrepreneurs are positioned longer than open innovation.

The Problem and Theoretical Background

Given arguments presented above in the previous section entrepreneurship has always been closely linked to innovation, indeed sometimes the results of innovation are seen as an indicator of entrepreneurship (Cámara, 2018; Ireland, Reutzler, & Webb, 2005). In addition, open innovation and innovativeness can be considered as strategies of innovation. At the same time, there is empirical evidence that there is a relationship between innovation and firm performance (Akbar et al., 2020; Cámara, 2018; Pla-Barber & Alegre, 2007) and between the innovation of companies and the search for entrepreneurial orientation strategies (Cámara, 2018; Kunapatarawong & Martínez-Ros, 2016; Xavier, Naveiro, Aoussat, & Reyes, 2017).

Nonetheless, within the literature on entrepreneurial orientation and firm performance there are some contradictory relationship (Camara, 2018). While some papers find a positive relationship (Alegre & Chiva, 2013; Gupta & Wales, 2017; Ndubisi & Iftikhar, 2012; Rauch et al., 2009; Raymond et al., 2014; Wales, Gupta, & Mousa, 2013), other studies do not support this relationship (George, Wood, & Khan, 2001; Matsuno, Mentzer, & Özsomer, 2002; Rua & França, 2015), requiring further study to establish the nature of this relationship and the aspects that can influence this relationship (Akbar et al., 2020; Basso, Fayolle, & Bouchard, 2010; Cámara, 2018; Carvalho, 2016; Covin, Green, & Slevin, 2006; Martins & Rialp, 2013; Rauch, Wiklund, Frese, & Lumpkin, 2004; Rauch et al., 2009; Walter, Auer, & Ritter, 2006; Wiklund, 1999; Wiklund & Shepherd, 2005). Due to this, some studies have looked for an explanation in

the mediating variables (Alegre & Chiva, 2013; Carvalho, 2016; Green, Covin, & Slevin, 2008), understanding that these variables can help provide an answer to this relationship and possibly open a door to further studies that consider this type of variables.

Finally, we show that entrepreneurial orientation constructs closely linked to open innovation and has generated a large number of studies in recent years (Ahn, Minshall, & Mortara, 2017; Cámara, 2018; Carvalho, 2016; Chaston & Scott, 2013; Hung & Chiang, 2010; Schmelzle & Tate, 2017). These investigations find that entrepreneurial orientation facilitates open innovation processes (Carvalho, 2016; Ju, Chen, Yu, & Wei, 2013; Ritala, Henttonen, Salojärvi, Sainio, & Saarenketo, 2013). Indeed, studies in this area have shown that the level of analysis is also critical. For example, Ahn et al., (2017), found that the EO of the Chief executive officers (CEOs) influence the adoption of open innovation strategies and the firms that adopt these strategies increase their ability to innovate (Ramirez-Portilla, Cagno, & Brown, 2017; Wu, Lin, & Chen, 2013) and achieve greater performance (Schmelzle & Tate, 2017). The performance of a company can be measured in various ways, one of these is company's overall performance. Ramirez-Portilla et al., (2017), find a positive influence in this relationship.

Previous studies on open innovation have generally focused on small and medium enterprises (Ambad & Wahab, 2013; Dodgson, Gann, & Salter, 2006; Song & Shin, 2008). A weakness of these studies has been identified by (Brunswicker & Vanhaverbeke, 2015), who call for new research to provide an empirical response to the relationship between entrepreneurial orientation and open innovation and their impact on firm performance. In addition, several studies have examined the influence of open innovation with high-tech companies (Carvalho, 2016; Carvalho & Sugano, 2017; Parida, Westerberg, & Frishammar, 2012; West & Gallagher, 2006), few studies, however, have taken into account low-tech (furniture) industries (Brunswicker & Van de Vrande, 2014 as cited by Camara, 2018).

The theoretical approach taken by this investigation adopts a resource-based view (RBV) and focuses on the use of dynamic capabilities theory (DC). A firm's resources are considered to be tangible and intangible; significantly it is how the firm makes use of them that will help to understand how it obtains higher performance (M. Huang & Cao, 2016; Wernerfelt, 1984). We argue that these resources will be sought with greater intensity by those managers with an entrepreneurial orientation. This is because they are more proactive in the search for new sources

to develop innovation within the firm (Lumpkin & Dess 1996). Innovation processes facilitate the generation of capabilities; and open innovation approaches can increase the ability of a firm to acquire resources and knowledge from outside the organization (Chesbrough, 2006; Cohen & Levinthal, 1990). Significantly these capabilities can be dynamic and modified or renewed (Teece, Pisano, & Shuen, 1997). Thus open innovation can contribute to this renewal by identifying and utilizing an external knowledge input. This can then lead to the creation of a new R&D capability that is essential for firm innovation and growth (Cámara, 2018; Melander, 2017). Finally, the dynamic capabilities of a firm and its level of entrepreneurial orientation have also been shown to directly influence performance (Cámara, 2018; Carvalho, 2016; Monteiro, Soares, & Rua, 2017).

Gap in the literature

Several organizations are practicing open innovation. However, as a relatively new concept there are some gaps. Several authors (Bianchi, Cavaliere, Chiaroni, Frattini, & Chiesa, 2011; Hossain, 2013; van de Vrande, de Jong, Vanhaverbeke, & de Rochemont, 2009), also recognize that the topic of open innovation represents a gap in the current literature (Carvalho, 2016; Camara, 2018). According to West, Salter, Vanhaverbeke, & Chesbrough, (2014), although open innovation research is frequently cited and has influenced the direction of innovation studies, it has had a limited impact upon the broader disciplines of management and economics. The relationship between open innovation and entrepreneurship deserves receive more attention because, according to Soriano & Huarng, (2013), over the last few years, the interrelationship between innovation and entrepreneurship, or new business creation, has become apparent through a vibrant research trend that fuses insights from different academic approaches.

However, according to (Carvalho & Sugano, 2017) quantitative studies in specific regions such as eastern European countries, Asia, Africa, Latin America is a gap, and its addressing can contribute to the theoretical framework of open innovation (Carama, 2018). Carvalho et al. (2016) identified two more gaps for quantitative studies: microenterprises and startups. Scholars have suggested future research to understand if the combination of these two variables may optimize the firm performance or one variable alone is sufficient to maintain competitive advantage (Huang & Wang, 2011). Thus, we contribute to open innovation literature, by studying open innovation, entrepreneurial orientation in Malaysian furniture industry.

In developing countries like Malaysia, most of the researches on entrepreneurship and open innovation are based on small firms (Akbar et al., 2020; Ambad & Wahab, 2013; Cascio & Montealegre, 2016; Miller & Le Breton-Miller, 2011). Fundamentally, a large firm faces different challenges than the challenges faced by a small firm. This is generally because both types of firms have different organizational designs and management styles (Cascio & Montealegre, 2016; Ambad & Wahab, 2013). Studies found that the manufacturing and innovation strategies employed by large and small firms also differ (Müller & Bostrom, 2016; Wagner & Hansen, 2005; Zahra & Garvis, 2015). Accordingly, it is important to conduct separate studies on the mediating effect of open innovation on entrepreneurial orientation and firm performance according to firm size. This is because it is questionable whether the results of studies on small firms can be generalized to larger firms.

Research objectives

The objective of this research is to analyze the relationship between entrepreneurial orientation and firm performance. And how inbound open innovation and outbound open innovation mediates the relationship between entrepreneurial orientation and firm performance. In accordance with research questions, the following research objectives are formulated:

- 1) To investigate the relationship of entrepreneurial orientation (innovativeness, risk-taking, proactiveness, autonomy, competitive aggressiveness) with firm performance in the furniture manufacturing industry of Malaysia.
- 2) Examine the relationship of entrepreneurial orientation (innovativeness, risk-taking, proactiveness, autonomy, competitive aggressiveness) with inbound open innovation in the furniture manufacturing industry of Malaysia.
- 3) Identify the relationship of entrepreneurial orientation (innovativeness, risk-taking, proactiveness, autonomy, competitive aggressiveness) with outbound open innovation in the furniture manufacturing industry of Malaysia
- 4) Examine the relationship of inbound open innovation with firm performance in the furniture manufacturing industry of Malaysia
- 5) To investigate the relationship of outbound open innovation with firm performance in the furniture manufacturing industry of Malaysia

- 6) Investigate mediating role of ‘inbound open innovation’ between the relationships of entrepreneurial orientation (innovativeness, risk-taking, proactiveness, autonomy, competitive aggressiveness) and firm performance
- 7) Examine mediating role of ‘outbound open innovation’ between the relationships of entrepreneurial orientation (innovativeness, risk-taking, proactiveness, autonomy, competitive aggressiveness) and firm performance

Methodology

The research would adopt quantitative methods research design to investigate the problem. Being a quantitative method research, data will be collected through emails, personal visits to companies. After reviewing the relevant literatures, the first stage in the research methodology involves designing the data collection instruments. This will involve designing and validation of questionnaire for the quantitative strands of the research. After developing the research instrument, the second step of the methodology will involve the collection of quantitative data from the relevant research participants (e.g. furniture manufacturing companies). The fourth step will involve the analysis of the collected data. The analysis will be done using Computer Assisted Data Analysis Software (CADAS). The quantitative data will be analyzed using Structural Equation Modelling (SEM) software such as Smart PLS-SEM 3 and IBM Amos SEM. Descriptive statistics will be conducted using Statistical Package for Social Science (SPSS).

Conclusion & Discussion

The paper provides detail background of the study, followed by the statement of research problem. The particular focus paid to entrepreneurial orientation and open innovation by focusing on the key contribution of furniture manufacturing sector in the economy. The aim is to construct a notion for this study to justify that open innovation and entrepreneurial orientation have great potential to be knock. It is intended to present a review of the past and present research and different theories used in explaining entrepreneurial orientation firm performance and open innovation as a mediation. From the literature it has been concluded that there is an upsurge in the exploration of open innovation literature and also the investigation of different which influence it (Camara, 2018; Carvalho, 2016 and Song et al., 2015). Hence, it is evident that in earlier studies, different variables were used to test the relationship of open innovation with performance. Nonetheless, it is very crucial to study the effect of entrepreneurship on open

innovation. Therefore, this research paper studied the influence of entrepreneurial orientation dimension on firm performance. Moreover, in contemporary innovation literature, the interaction of organization with outside environment and organization has received considerable attraction. As open innovation having inbound and outbound innovation, have got significant share in literature as there have been many recent studies, discussing the relationship among business strategies, open innovation, firm performance and entrepreneurship. Therefore, the current paper aims to investigate the relationship of entrepreneurial orientation, inbound innovation, outbound innovation and firm performance. It is hoped that this research will add the existing body of knowledge on open innovation and entrepreneurial orientation in Malaysian furniture manufacturing industry and their performance. It is expected that this research findings will be helpful for future research and government policy makers with regards about implementation of open innovation strategies through entrepreneurial orientation in manufacturing industry to assist and help the industry that can grow and produce faster, cheaper and commercially viable products on sustainable basis. This study also hopes to make some practical contribution mainly focusing on identifying issues related to industrialization that help to improve the performance of this sector.

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