A Study on Product Innovation Portfolio and Customer Value Creation: Bridging Entrepreneurial Risk-Taking Orientation and Marketing Performance

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The aim of this study is to investigate the role of product innovation portfolio and customer value creation in bridging the gap between entrepreneurial risk-taking orientation and marketing performance. Wood crafts companies located in Bandung, Yogyakarta, and Solo, all of which have been regarded as Indonesia’s creative cities, were used as samples. Sampling was done by using a combination of purposive and convenience sampling. The total data used for the analysis was from 172 respondents who filled in direct questionnaires. This research used Structural Equation Modeling (SEM) with AMOS v.20 program for data analysis. The results showed that product innovation portfolio serves as a mediator in the relationship between entrepreneurial risk-taking orientation and marketing performance. Furthermore, the results also found that customer value creation has a positive effect on marketing performance.

Keywords: entrepreneurial risk-taking orientation, customer value creation, marketing performance, product innovation portfolio

Introduction

Risk-taking is well known in the field of entrepreneurship studies, particularly the dimensions of entrepreneurial orientation, inherent characteristics of an entrepreneur who seeks to establish a new business (Brockhous, 1980; Carland, Carland, Carland, & Pearce, 1995; Gilley, Walters, & Olson, 2002), to try new products and services that are uncertain (Covin & Slevin, 1991; Lumpkin & Dess, 1996; Miller, 1983), which essentially focused to refigure the current resources and exploit new resources to create advantages (Wang & Poutziouris, 2010), and produce greater outcomes (Gibb & Haar, 2010).

The approaches in entrepreneurial risk-taking studies, either at an individual or corporate level, find entrepreneurs emphasizing more on decision-making (Busenitz, 1999; Coleman, 2007; Pablo, 1997) and seeking opportunities (Ficco & Karamychev, 2008; Hills & Lumpkin, 1997) in uncertain situations. The study conducted by Memili, Eddeleston, Kellermanns, Zellweger, and Barnett (2010) and Wang and Poutziouris (2010) found that family companies that are willing to take the risk of entering new markets, can gain high sales growth and market share. Moreover, Willebrands, Lammers, and Hartog (2012) found a positive and significant effect when examining the effect of risk-taking on sales growth in small businesses. In contrast, Casillas and Moreno (2010) stated that a risk-taking company does not have any impact on sales growth and in fact Lotz and van der Merwe (2013) found that risk-taking has a negative effect on sales growth.

Considering the contradictory results of the studies as described above, this study attempts to analyze the role of product innovation portfolio and customer value creation in bridging the gap between entrepreneurial risk-taking orientation and marketing performance.

Literature Review

Product Innovation Portfolio

Innovation refers to the capacity of the company to engage in innovation, which introduces new processes, new products, or new ideas within the organization (Hult, Hurley, & Knight, 2004). Innovation is identified in several different dimensions or types that affect the company’s performance including process innovation, product innovation, marketing innovation, and organizational innovation (Gunday, Ulusoy, Kilic, & Alpkan, 2011); product innovation, process innovation, and administrative innovation (Jiménez-Jiménez & Sanz-Valle, 2011); product innovation and process innovation (Koellinger, 2008); radical innovation, incremental innovation, product innovation, process innovation, administrative innovation, and technological innovation (Dibrell, Davis, & Craig, 2008). Dibrell et al. (2008) considered product and process innovation as the most common types of innovation used in the context of small business. Product innovation reflects a change in the final product or service offered by the companies, while the innovation process represents a change in the way the companies produce products and services.

Innovation is regarded as the process of creating something new or a new use while increasing benefits that lead to satisfaction of specific needs (Drucker, 1993; Schum-
peter, 1934; Strecker, 2009). Innovation should be seen as a necessary corporate strategy for various reasons such as to apply more productive manufacturing process, to perform better in the market, to get good reputation in customer perception, which all will resulted in gaining a sustainable competitive advantage (Gunday et al., 2011). Bergfors and Larsson (2009) emphasized that the development of product innovation is driven by the desire to enhance or improve the characteristics and performance of the final product. Thus, the objectives of product innovation may be to develop new products or to improve product characteristics and quality.

The concept of product innovation portfolio that is proposed in this study is as a mediating variable in the relationship of entrepreneurial risk-taking orientation and marketing performance. Product innovation portfolio is a set of product innovations that is renewable, difficult to imitate, and have unique characteristics. The concept is developed from the synthesis of product and innovation. Product portfolio is a collection of all physical components and functional products (Chao & Kavadias, 2008; Kraiczcy, Hack, & Kellermanns, 2013; Stone, Kurtadikar, Villanueva, & Arnold, 2008); the multiplicity, diversity, and interrelatedness (Jacobs & Swink, 2011). Innovation portfolio is a best set of concepts that supports a coherent overall strategy that has a high potential for value creation (Mathews, 2010, 2011).

Customer Value Creation

Gulati, Nohria, and Zaheer (2000) stated that value can be created in a variety of ways, such as through improvement of transaction efficiency, improved coordination between companies, and access to valuable information, markets, and technology. Value creation can be viewed in three perspectives, which are the perspective of the buyers, sellers, and buyers-sellers. The value creation from the customer’s perspective is related to how the customers perceive the value of the offer compared to the available alternatives. From the supplier’s perspective, the introduction of customer needs is a key asset to attract, develop, and retain customers. Meanwhile, from the perspective of buyers-sellers, the value is created through networks and partnerships (Hammervoll, 2012; Payne, Storbacka, & Frow, 2007; Ulaga, 2001).

Value creation from the company’s perspective is a key strategic tool to achieve competitive advantage and company performance. It is a concept that describes the company’s effort to deliver superior performance, which the customers desired, through innovation. Innovation enables companies to update their products with the attributes that ultimately meet the needs of customer more than existing products (O’Cass & Ngo, 2012; O’Cass & Sok, 2013). Van Horne, Frayret, and Poulin (2006) and Voelpel, Pierer, and Streb (2006) emphasized that the creation of more value can be gained through product innovation but not in the innovation process. The result study of O’Cass and Sok (2013), Parthasarathy, Chenglei, and Aris (2011), and Yaşlıoğlu, Caliskan, and Sap (2013), found that product innovation is the instrument to create customer value. Thus, the hypothesis can be formulated as:

H1: The better the product innovation portfolio is, the better the customer value creation becomes.

Antecedent of Product Innovation Portfolio

The courage to take risks is the strong willingness of an entrepreneur to take action entering new markets and launching new products, although there are implications of failure and the results are not known (Miller, 1983). Ramachandran and Ramnarayan (1993) stated that there are two types of entrepreneurial behavior in taking risks. The first type seeks to manage uncertainty and risk by observing or scanning the environment, forming collaborative partnerships, and paying attention to the development of organizational capabilities. The second one expands access to key decision-makers from other organizations by instituting networking.

Wu and Wu (2013) explained that product innovation is a competitive activity for most companies. However, it has a very highly uncertain pathway due to market and technology shifts. Thus, developing a new product or innovation requires risk-taking in consideration of the existing uncertainty and it even may produce negative effects (O’Reilly & Tushman, 2004). An entrepreneur who has a pro-change attitude requires support for innovation. One of the most crucial factors in supporting innovation is risk-taking (Brion, Mothe, & Sabatier, 2010; Cabrales, Medina, Lavado, & Cabrera, 2008; O’Reilly & Tushman, 2008). Therefore, the second formulated hypothesis is:

H2: The higher the entrepreneurial risk-taking orientation is, the better the product innovation portfolio becomes.

Marketing Performance

The concept of company performance can be divided into three domains, a broader domain which is the domain of organizational effectiveness, the medium one is the business performance domain that includes financial and operational performance, and the narrower domain is the domain of financial performance (Venkatraman & Ramanujam, 1986). Performance indicates the company’s success in achieving its goals and can be measured by objectives and perceptions (Wang, 2008). Wiklund (1999) and Avlonitis and Salavou (2007) categorized the
perception-based performance into two categories: financial performance and marketing performance perceptions. Financial performance perception is measured by the manager’s perception on the companies’ performance compared to the competing companies’ performance. Similarly, marketing performance perception focuses on the company’s sales growth, employee growth, and market share compared to its competitors (Gunday et al., 2011; Yamin, Gunasekaran, & Mavondo, 1999). Davis, Bell, Payne, and Kreiser (2010) suggested that performance measurement of a small business is more suited using the managers’ perception of growth rate, because they had trouble in getting access to financial performance archives. Therefore, this research focuses on marketing performance measurement.

Wiklund (1999) argued that entrepreneurial orientation is based on the entrepreneurial process in which the proactive acts, innovation, and risk-taking endeavors by the companies are associated with improved company performance. It is because the relationship is based on the assumption that entrepreneurial oriented company has a first-mover advantage and has the tendency to take advantage of the emerging market opportunities. Lumpkin and Dess (1996) stated that entrepreneurial oriented companies are often characterized by risk-taking behaviors such as incurring a debt (incurring heavy debt) or making a large commitment of resources by exploiting existing opportunities in order to achieve high profits.

Wang and Poutziouris (2010) and Willebrands et al. (2012) stated that the companies that attempted to achieve a high level of performance needed to exploit entrepreneurs with the ability to rapidly feel, act, and engaged in high-risk conditions. The reason is because the companies which are able to take high-risk businesses will tend to reap big rewards in a high level of performance. According to the statement above, then we formulated this hypothesis:

\[ \text{H3: The higher the entrepreneurial risk-taking orientation is, the higher the level of marketing performance reached.} \]

Product innovation is an alternative marketing strategy to support the company’s performance. By offering innovative products, the company can differentiate itself from its main competitors (Lee, 2010), gain positional advantages that drive end-user demand and ability to pay premium price, (Lages, Silva, & Styles, 2009), which also increased the competitive advantage and company performance (Akgun, Keskin, & Byrne, 2009).

Verhees, Meulenbregt, and Pennings (2010) argued that product innovation is a consequence of the manager’s focus in the pursuit of marketing performance. It is confirmed by Ngo and O’Cass (2013) that innovation is a central issue in the focus of research on the companies’ performance. The researchers agreed that the main concern of the company is to improve performance by developing new products. Studies conducted by Aydin, Cetin, and Ozer (2007); Sandvik and Sandvik (2003); Song, Im, Bij, and Song (2011); Vaccaro, Parente, and Veloso (2010), and Wang and Wang (2012); found that the development of new products to enhance company’s reputation, company’s image, and product value, has a positive impact on the improvement of company performance. Therefore, the hypothesis can be formulated as: \[ \text{H4: The better the product innovation portfolio is, the higher the marketing performance becomes.} \]

Gulati et al. (2000) discussed that the value created in relationship networks affects the behavior and performance of an enterprise. This can be achieved when the cost of coordination and transaction is seen as an event that occurs in a meaningful relationship with value, then the transaction and coordination costs will be low and lead to improvements in the companies’ performance. Ngugi, Johnsen, and Erdélyi (2010) stated that relational capabilities enhance the creation of customer values including cost benefits, revenue benefits, and acquisition of new competencies as a company’s success determinant.

Aspara and Tikkanen (2012) stated that in the contemporary terminology, the value creation approach is considered as a strategy which refers to the value utility or value benefit of the products or other company offers created by the customer and has a positive effect on company performance. The study by Aspara and Tikkanen (2012) reported a positive and significant effect of the emphasis on value creation strategy on company performance. Similarly, the study of Sullivan, Peterson, and Krishnan (2012) found that value creation has a positive impact on companies’ sales performance. Creation of customer value is reflected in the delivery of quality product, flexibility to customer needs, and speed of response to retain customer loyalty. Competence in the creation of customer value is an effective approach to building a mutually beneficial relationship. Efforts to attract customers to remain loyal to the company will in turn increase sales and market share growth. Therefore, the hypothesis can be formulated as: \[ \text{H5: The better the customer value creation is, the higher the marketing performance becomes.} \]

According to the developed concepts and the proposed hypotheses, the empirical research model is as follows:

**Indonesian Creative Industry**

Since 2009, the Indonesian government has realized the
important role of creative industries in the national economic development. Hence, the Indonesian government developed a road map for the development of creative industries. The map determined 14 industry sub-sectors namely: 1) advertising, 2) architecture, 3) art and antiques market, 4) craft, 5) design, 6) fashion, 7) video, film, and photography, 8) interactive games, 9) music, 10) performing arts, 11) publishing and printing, 12) computer services and software, 13) television and radio, and 14) research and development. In addition, the Indonesian government also launched several creative cities such as Jakarta, Bandung, Yogyakarta, Solo, and Denpasar. The cities are considered as creative because they have a history of developing creative industries (Ministry of Trade Republic of Indonesia, 2009).

Methods

This study focused on the crafts industry, wood crafts in particular, because the sub-sector contributes most in exports value (33%) compared to other creative industry sub-sectors (Ministry of Trade Republic of Indonesia, 2009). The population of this research is the companies of wood crafts industry in Yogyakarta, Solo, and Bandung, all of which are creative cities.

Bandung is a potentially creative city. In 2007, Bandung was launched as a pilot project of creative cities throughout East Asia in Yokohama, which was then facilitated by the Bandung Creative City Forum (BCCF). Yogyakarta also has a vision to make itself a city of art and culture, in which it reinforces the aspects of history and legends with artwork and cultural heritage, such as the palace, artwork, dance culture, and existing local legacy crafts. Solo is another city regarded as a creative one referring to the city’s MICE (Meeting, Invention, Conference, and Exhibition) artwork. In the crafts sub-sector, Solo craft carvings are very famous and popular in the international market.

The sampling technique was performed using purposive sampling, with being a sustainable operating company as the prerequisite in determining the sample. Respondents in this study were 200 small business managers and owners in the wood crafts industry. Data collection was conducted in June-August 2014 in an interview using a structured questionnaire as base. Data were analyzed using structural equation modeling with AMOS v. 20 package.

Measures

This study was modified from a prior research and assessed all the variables as multi-item measures. All measures of variables were adopted using an interval scale where 1 represented totally disagree and 10 represented totally agree (Table 1).

Entrepreneurial Risk-Taking Orientation was measured by three items reflecting the strong intention of the companies to enter new market, launching newest product, and applying new marketing techniques (Covin & Slevin, 1991; Avlonitis & Salavou, 2007).

Product innovation portfolio was measured by three items reflecting that the companies have unique product design, renewable products, and inimitable products (Jiménez-Jiménez & Raquel Sanz-Valle, 2011; Gunday at al., 2011).

Customer Value Creation was measured by three items reflecting the companies’ effort to quickly response to changes in customer demand, easily adjust to the change in customer needs, and deliver high quality products (O’Cass & Sok, 2013).

Marketing Performance was measured by three items reflecting sales growth rate, new customers’ growth rate, and market coverage. The respondents were asked to assess their companies over last three years (Huges & Morgan, 2007; Gunday at al., 2011; Green at al., 2012).
After the screening and trimming process, only 172 respondents were used as the analysis units for further testing. Our preliminary analysis indicated that there was an abnormality of the data. Therefore, to normalize the data, we used data normalization techniques proposed by Tabachnick and Fidell (2007). In order to normalize the abnormal data that has a moderately negative skewness, we used the formula $\text{SQRT}(KX)$ where $K$ is a constant from each score usually equals to the largest score + 1. The results of further testing were done by using a dataset that has been transformed to produce normal data. Thus, the hypothesis testing analysis can be done. The results of testing the formulated hypotheses can be seen in Figure 2.

Figure 2 shows that the goodness of fit test of the constructed model. It is showing good values for $\text{GFI}=0.935$, $\text{AGFI}=0.896$, $\text{CFI}=0.966$, $\text{TLI}=0.954$, and $\text{RSEA}=0.053$.

### Table 1. Measurement Items and Validity Assessment

<table>
<thead>
<tr>
<th>Construct and items</th>
<th>Factor Loading</th>
</tr>
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<tbody>
<tr>
<td><strong>Entrepreneurial Risk-Taking Orientation (Covin &amp; Slevin, 1991; Avlonitis &amp; Salavou, 2007)</strong></td>
<td></td>
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<tr>
<td>Ero1. We have strong intentions to take risk of entering new markets.</td>
<td>.768</td>
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<tr>
<td>Ero2. We have bold intentions to take risk of launching new products.</td>
<td>.766</td>
</tr>
<tr>
<td>Ero3. We have strong intentions to apply new marketing techniques.</td>
<td>.770</td>
</tr>
<tr>
<td><strong>Product Innovation Portfolio (Jiménez-Jiménez &amp; Raquel Sanz-Valle, 2011; Gunday at al., 2011)</strong></td>
<td></td>
</tr>
<tr>
<td>Pip1. We have unique product designs.</td>
<td>.747</td>
</tr>
<tr>
<td>Pip2. We have renewable products.</td>
<td>.762</td>
</tr>
<tr>
<td>Pip3. We have inimitable products.</td>
<td>.675</td>
</tr>
<tr>
<td><strong>Customer Value Creation (O’Cass &amp; Sok, 2013)</strong></td>
<td></td>
</tr>
<tr>
<td>Cvc1. We quickly respond to the change in customer demands.</td>
<td>.679</td>
</tr>
<tr>
<td>Cvc2. We easily make adjustments to the change in customer needs.</td>
<td>.908</td>
</tr>
<tr>
<td>Cvc3. We deliver high-quality products to customers.</td>
<td>.633</td>
</tr>
<tr>
<td><strong>Marketing Performance (Huges &amp; Morgan, 2007; Gunday at al., 2011; Green at al., 2012)</strong></td>
<td></td>
</tr>
<tr>
<td>Mp1. We have sales growth.</td>
<td>.723</td>
</tr>
<tr>
<td>Mp2. We have new customers’ growth.</td>
<td>.921</td>
</tr>
<tr>
<td>Mp3. We have increasing market coverage.</td>
<td>.675</td>
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</tbody>
</table>
SEA= 0.053. Although the Chi-square and probability of the models showed unfavorable values, but the overall other goodness of fit index showed good values therefore the model is accepted.

The analysis highlighted the regression coefficient value of the causal relationship as shown in Table 2.

The value analysis as shown in Table 2 indicated that there is strong support in four of the five constructed hypotheses. These results proved that product innovation portfolio has a positive and significant impact on customer value creation (H1 supported), entrepreneurial risk-taking orientation to product innovation portfolio (H2 supported), product innovation portfolio to marketing performance (H4 supported), and customer value creation to marketing performance (H5 supported). Meanwhile, the research showed that entrepreneurial risk-taking orientation does not affect the marketing performance improvement. This can be seen as the value of p = 0.055 which is greater than 0.05, meaning that hypothesis 3 is not supported. Nevertheless, the influence of entrepreneurial risk-taking orientation towards marketing performance is positive.

The Sobel Test is then used to ensure the mediating role of the variable of product innovation portfolio in bridging the gap between entrepreneurial risk-taking orientation and marketing performance. The Sobel Test was done online at http://www.danialsoper.com. The result of the Sobel Test is presented in the Figure 3.

The results of the Sobel Test presented in Figure 3, indicates that the P-val (probability value) is 0.054. Although the P-val is higher than 0.05, the value is still in the acceptable range of 0.10 (Hair et al., 2010). Hence, the product innovation portfolio has a significant mediating role in the relationships of entrepreneurial risk-taking orientation and marketing performance. This means that the entrepreneurial risk-taking orientation has an impact on improving the marketing performance if the company has a product innovation portfolio.

**Results and Discussion**

As discussed previously, risk-taking is a factor that has an important role in improving business performance, especially in sales and market share growth (Lumpkin & Dess, 1996; Memili et al., 2010; & Poutziouris Wang, 2010; Zahra, 2005). This study found that entrepreneurial risk-taking orientation does not significantly affect marketing performance improvement, which means that the risks undertaken by the companies in the creative industry to enter new markets, launching new products, and apply new marketing techniques, did not always resulted in improved marketing performance. However, entrepreneurial risk-taking orientation has a positive effect on product innovation portfolio. This means that the more risk the creative industries companies is taking, the higher increase there is in their product innovation portfolio.
The results of this study confirmed the argument of Brion et al. (2010) and Cabrales et al. (2008) that risk-taking is a key factor in driving product innovation.

This study found a positive and significant effect of product innovation portfolio on customer value creation. This means that the more the creative industries companies increase their product innovation portfolio, the higher the customer value creation becomes. Thus, these results supported the argument that the customer value creation can be obtained through product innovation (Parthasarathy et al., 2011; Van Horne et al., 2006; Voelpel et al., 2006; Yaşlıoğlu et al., 2013). Furthermore, this study also found that product innovation portfolio has a positive effect on marketing performance. This means that the more the creative industries companies owned innovation product portfolio, the higher the marketing performance is. The results of this study confirmed that product innovation is a consequence of the pursuit of performance and that the product innovation portfolio which refers to the level of uniqueness, novelty products, and increase in the level of difficulty can replicate marketing performance (Aydin et al., 2007; Sandvik & Sandvik, 2003; Song et al., 2011; Vaccaro et al., 2010; Wang & Wang, 2012).

This study also found a positive and significant effect of customer value creation towards marketing performance. This means that the more the creative industries companies have customer value creation, the better its marketing performance will be. These results confirmed the argument Gulati et al. (2000), Payne et al. (2007), and Lavie (2007) that the creation of value in networking impacts enterprise performance improvement.

According to the developed model and the hypothesis testing, it can be concluded that although the entrepreneurial risk-taking orientation does not directly influence the marketing performance improvement, the innovation product portfolio can serve as mediating variable in the relationship between entrepreneurial risk-taking orientations and marketing performance, since it is evident that there is a significant positive effect of entrepreneurial risk-taking orientation towards product innovation portfolio and a significant positive effect of product innovation portfolio towards marketing performance.

Conclusions

The results found that entrepreneurial risk-taking orientation does not affect marketing performance, but has a positive effect on product innovation portfolio nevertheless. Meanwhile, the product innovation portfolio and customer value creation have positive effects on marketing performance. Therefore, managers can improve the marketing performance by improving product innovation portfolio and customer value creation. There are two possible alternatives for the owners and managers of small and medium enterprises in Indonesia’s creative industries. The first alternative is to increase product innovation by increasing the uniqueness of the product portfolio including the product’s attributes, continuously increasing the product’s novelty, and increasing the level of difficulty to be imitated by others. Increasing product innovation portfolio can improve the marketing performance. The second alternative is the creation of customer value. When companies created customer value including quickly responding to changes in customer demand, increasing flexibility to the changing customer needs, and delivering quality to customers, it will improve marketing performance. The customer value creation occurs when companies increase their product innovation portfolio.

This study has some limitations that can be used as an opportunity for future researches. The first is the statistical test results that demonstrated the value of the squared multiple correlations of a variable such as product innovation portfolio, customer value creation, and marketing performance is less than 0.5 which indicated that there are other variables that could potentially be a determinant in addition to the variables in the model. Therefore, the future research agenda needs to add other variables beyond the existing ones. Secondly, this study focused on small and medium enterprises in the creative industry sub-sectors wood crafts industry, therefore the future researches need to expand the focus of research into other creative industries sector, which has different characteristics and challenges.

References


