Do entrepreneurial orientation and size of enterprise influence the performance of micro and small enterprises? A study on mediating role of innovation

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ABSTRACT

This paper identifies the mediating role of innovation and moderating role of size of enterprise on the relationship between entrepreneurial orientation and performance of Micro and Small Enterprises (MSEs). For the purpose of this study, the necessary data is collected from 384 MSE's operating in Punjab province, Pakistan. Initially the data are analyzed using SPSS 22 and then, for the development of structure equation modeling, Smart PLS-3 is used. Two aspects of entrepreneurial orientations; namely risk taking and pro-activeness are analyzed and innovation is considered as mediating variable. The major contribution of the study is to identify any moderating effect of size of the enterprise on the relationship between entrepreneurial orientation, innovation and performance of MSEs. These elements basically show the contribution that is made by the innovation and performance of the MSE's. The results reveal that the size of enterprises moderated the relationship between risk taking and performance, pro-activeness and performance as well as innovation and performance.

Keywords:
Entrepreneurship
Innovation
Micro and small enterprises
Performance
Risk taking

1. Introduction

During the past few years, business activities have increased and dynamics of businesses have created much complexities in the business environment and they need to be more innovate (Ahlin, et al., 2013). Due to great competition in the global market, enterprises are in competition according to their capabilities which differentiate them from their competitors (Aloulou & Fayolle, 2005). Many enterprises have made competitive advantage by bringing innovation in their products and services (Ashourizadeh, et al., 2014). The majority of the studies conducted in the past, have focused on large enterprises only. Despite the importance of Micro and small enterprises (MSEs) in economic development, and employment generation (Ali, 2013), most MSEs are still ignored and there is a little understanding on how MSEs could utilize their capabilities like entrepreneurial orientation and innovation to bring necessary changes for better performance.

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The MSEs significantly contribute on the economy of any developing country including Pakistan (Aftab & Naveed, 2013). Pakistan is becoming the most important place for research in Asia due to declining position of small sector due to which the country has gained importance in the eyes of practitioners, researchers, and policy makers (Abe, et al., 2012). The growth rate of small sector has been declining and it has remained below the acceptable average level for the last six years. The growth rate of small scale has remained below 10 percent which is an alarming situation for Pakistan (Aslam, 2013), as this sector provides maximum employment to the industrial labor force. Considering the declining position of MSEs in the country, the current study tries to focus on identifying any moderating effect of size and mediating effect of innovation between the relationship among risk taking, pro-activeness, and performance of MSEs (Brettel, et al., 2015). The research argues on facilitating entrepreneurial orientation and innovative capabilities to MSEs for gaining high performance of MSEs.

The studies have shown that Small and Medium Enterprises (SMEs) are more into new and emerging technologies and they are more into innovation but the situation for MSEs is not clear on how to use these capabilities. MSEs are ambiguous in understanding how they could help themselves in the process of differentiation and how this differentiation will affect their performance. Risk taking is considered as vital for SMEs and large enterprises only (Simon, et al., 2011). Similarly, pro-activeness is also considered as vital for the growth and performance of large enterprises (Runyan, et al., 2008), whereas, this study argues that MSEs operate in the same environment, so they also have the same issue and need the same to perform well. Innovation is necessary for MSEs as well (Naranjo-Valencia et al., 2011; Hoque, 2018). Similarly, size of the enterprise not only influences the performance of large enterprises but also the performance of MSEs (Immy-xai & Takahashi, 2010). Usually entrepreneurial orientation is considered as the combination of innovation, risk taking, and pro-activeness (Aloulou & Fayolle, 2005). However, the argument that is raised in the study is that innovation is the consequence of risk taking and pro-activeness (Hafeez, et al., 2012). If any enterprise does not possess risk taking and is not pro-active, it can never be innovative. Therefore, the objective of the present study is to focus on mediating role of innovation between risk taking, pro-activeness, and performance of MSEs, and to analyze whether or not the size of the enterprise moderates the relationship between risk taking, pro-activeness, innovation, and performance of MSEs.

2 Literature Review

In order to understand the phenomenon, abridged literature has been reviewed regarding the performance of MSEs, entrepreneurial orientation, innovation, and size of enterprises. The enterprises must use higher skills and expertise to achieve competitive advantages. Entrepreneurial and innovative skills are the most important skills that can create a positive effect on the performance of MSEs. Most of the MSEs face some restrictions regarding resources and they may fail to become a successful innovator for this reason. Entrepreneurial activities are said to be the nimbler activities and they are more than the counterparts (Haider et al., 2017a). The advantage of the entrepreneurial enterprises is that they serve the attractive niches with innovation and that can simply be executed through the new products in the market. Entrepreneurial qualities are attached with the learning, integrated market and lead to innovation (Haider et al., 2017b).

Performance of MSEs in developing countries mainly depends on the financial resources (Haider, et al., 2015). Many researchers have argued that financial access is the most common problem behind poor performance and deteriorating rate of MSEs in developing countries (Asad et al., 2016a). The focus of the current study is that in addition to financial access, entrepreneurial orientation is among the most important requirements for getting high performance of MSEs. Several studies have identified the importance of entrepreneurial orientation for gaining high performance of MSEs. According to Aloulou and Fayolle (2005), risk taking is among the most important characteristics of an enterprise, which could lead to high performance. Pro-activeness is also given top priority (Andersona & Eshima, 2013). Risk taking
and pro-activeness both are considered important for the performance of enterprises along with innovation. The fact is that tendency to take risk and being pro-active leads to innovativeness, which causes high performance.

Several studies have identified the role of the size of the enterprise as a vital element of performance (Greene, et al., 2015). The size of an enterprise does not directly affect the performance but influences the relationship of risk taking, pro-activeness, innovation, and performance. If an enterprise has relatively bigger size, its risk taking and pro-activeness would more significantly affect the performance (Haider et al., 2017c; Imran et al., 2017). Likewise, if the size of an enterprise were large, it would be more prone to innovativeness as it has the capacity to face any failure (O'Regan & Ghobadian, 2004). Therefore, in this study, innovation has been taken as a mediator, whereas the size of the enterprise has been taken as moderator.

Considering the importance of entrepreneurial orientation for getting high performance of MSEs, it is important to understand the concept of entrepreneurial orientation (Covin & Lumpkin, 2011). The term entrepreneurial orientation shows that entrepreneurial orientation basically has an innovativeness, pro-activeness, and risk taking behavior (Shabbir et al., 2016a, 2016b, 2016c, 2016d, 2017; Shabbir et al., 2018). These three behaviors create value in the culture of the enterprises (Rauch, et al., 2009). The study explains that entrepreneurial orientation is said to be the organizational culture that is used to enhance the wealth and that can be done through innovation, while looking at the opportunities (Haider, et al., 2017). These things may bring the risk-taking prosperity for them (McMullen & Shepherd, 2006). In entrepreneurial orientation the pro-activeness is said to be the dimension and entrepreneurial chart include this orientation and shows the behavior and how much enterprises are into risk taking and wish to be innovate by the use of available resources (Madsen, 2007). The enterprises with entrepreneurial activities have necessary intelligence and they know how to become innovate and how to bring improvement in results for the enhancement of consumers’ satisfaction and increase performance (Lechner & Gudmundsson, 2012). Risk taking basically means taking bold decisions and the owners of MSEs have to take bold decisions when they are unknown in market and have to allocate resources for the success of venture (McMullen & Shepherd, 2006). Thus, new and some of the old entrepreneurs, reported risk as the main characteristic of entrepreneurial orientation (Aloulou & Fayolle, 2005; Asad et al., 2016b). The main reason of innovation to have a link between risk and entrepreneurial orientation is that these entrepreneurs have more impacts on innovation (Brettel, et al., 2015). They are more into capabilities to show maximum amount of performance of the entrepreneurial ventures. Entrepreneurs calculate risk and then they take the decisions (McMullen & Shepherd, 2006). The entrepreneurial ventures are mostly linked with risk taking behavior (Rosenbusch, et al., 2011). This behavior can be observed as entrepreneurs enter in to unknown markets, or enter into untested markets and adopt unproven technologies, all this required investment which is under the actual financial risks and need to borrow large amount of loans (Ashourizadeh, et al., 2014).

Being initiative is also one of the main factors of entrepreneurial orientation (Lee, et al., 2004). Taking initiative is the result of pro-activeness, which is among the most common characteristic of entrepreneurship. Pro-activeness includes catering the opportunity (Kreiser, et al., 2013). Basically, it means looking forward or spending time for the development of something new (Lee, et al., 2004). The innovation may be in services or in products (Naranjo-Valencia et al., 2011). Proactive entrepreneurs want to bring something new to the market and want to meet the demands of consumers. Entrepreneurs basically identify new opportunities by looking at the environmental situations (Shabbir et al., 2016d; Shabbir et al., 2017). Micro and small enterprise could move fast and are more flexible in the work, proactive and risk takers. The tailored niches are the most attractive niches that include introduction of innovation in products and services, including business models. It provides opportunity to the MSE’s and they can provide higher value for customers and can bring uniqueness because of innovation, which ultimately leads to better performance of MSEs (Sahut & Peris-Ortiz, 2013).
At the same time innovation is the element to decide and determine what the organization will achieve and how it affects performance (Andersson & Lööf, 2012). The enterprises have greater capacity to innovate and to implement innovations that are made in accordance with the market needs (Kovaleva & Vries, 2016). Through innovation most of the organizations achieve competitive advantage and are more responsible in dealing with the environment and developing new capabilities (Aribaba, et al., 2011). This act helps MSEs in enhancing performance. Innovation of the products may increase demand of the products which consequently enhances the performance (Rubera & Kirca, 2012). After determining the most influential factors affecting performance, it is important to identify how to measure performance. The performance of any enterprise can be measured by measuring Return on Asset (ROA) and Return on Investment (ROI) (Horne, 2013). Performance can also be measured by analyzing new product development, sales growth, customer satisfaction, and finally overall performance and customer satisfaction can be used as a measure of performance. The suitable measure of performance can be identified on the basis of strategic objectives of the enterprises. There are a number of approaches to measure the financial performance and the market effectiveness as well as the strategic objectives. Another important thing that should be kept in mind is that performance of MSEs especially in the developing countries like Pakistan cannot be measured on the basis of ROA or ROE because the owners of MSEs in such countries are unable to keep accounting records, therefore, the performance has to be measured on the basis of perception of the owners regarding sales growth, customers’ growth, assets growth, product growth, employment growth, and the enterprise reputation in the market (Asad et al., 2016c). Several researchers and even few government departments may measure the performance of MSEs. MSE's are found similar in many matters and are different from the larger enterprises. However, under certain circumstances, micro enterprises have to face more difficulties as compared with small enterprises. Despite the fact there are insignificant differences but in few cases the differences become significant especially while we consider risk taking. Therefore, the current study tries to analyze whether or not the size moderates the relationship between entrepreneurial orientation and innovation and entrepreneurial orientation and performance. On the basis of the above discussion the study is being conducted by considering resource-based view of the enterprise. According to resource-based view the resources are vital for gaining competitive advantage. The resource-based theory is used to tell how the enterprise should utilize its capabilities to gain competitive advantages. Considering the resource-based view of the firm and the arguments raised in the study on the basis of literature review, the following framework has been developed which would be analyzed using structural equation modeling.

3. Research Method

The study was exploratory in nature and was designed to test the resource-based view of the firm. The sample of 384 MSEs has been selected on simple random sampling basis from the entire province of Punjab. Punjab has been selected because more than 50% of the MSEs are operating in Punjab, Pakistan. All those MSEs that have fewer than 10 employees were termed as micro enterprises and all those that have employees between 10 and 20 are termed as small.
3.1 Research Design

Research design provides the guideline for conducting research. Research design was developed on the basis of research hypotheses and objectives of the study. The current research paper followed quantitative method. After ensuring normality of the data, partial least square has been used for identifying the significance of direct relationships, mediating role and moderating effects (Hair, et al., 2013). For the purpose of collecting the data survey method has been adopted. The data has been collected from the owners of MSEs in Punjab Pakistan.

3.1.1 Purpose of the study

The primary purpose of the study was to test the mediating role of innovation in the relationship between entrepreneurial orientation and performance of MSEs. Furthermore, this study tried to identify the effect of firm size over the relationship between entrepreneurial orientation and performance of MSEs and entrepreneurial orientation and innovation.

3.1.2 Timeframe of the study

The study was cross sectional and will be conducted in 3-month time period. The data collection were executed within the timeframe of three months.

3.1.3 Research method

The study also followed survey research. Survey method was selected because survey method is the most appropriate when the sample was to be collected from a large population and the results have to be generalized.

3.1.4 Unit of analysis

Unit of analysis may be an individual or organization. In this study, organizations are the unit of analysis. Therefore, in the current study MSEs are taken as unit of analysis. All the MSEs owners operating in Punjab can be the respondents of the study.

3.2 Operationalization of Variables

Four variables have been used in this study including entrepreneurial orientation, innovation, firm size, and performance of MSEs. The variables have been operationalized as explained next.

3.2.1 Entrepreneurial orientation

Entrepreneurial orientation has been further divided into two dimensions. Risk taking and pro activeness. Another dimension is commonly used i.e. autonomy, but it is ignored because the study was conducted on MSEs, so the role of autonomy was nullified as in MSEs there was one owner who could make the decisions and the concept of autonomy was not necessary.

3.2.1.1 Risk taking

Risk taking means the propensity of the MSE to take risk of investing in research and development innovation and to take risk of entering new markets (Asad et al., 2016c).

3.2.1.2 Pro-activeness

Pro-activeness means the propensity of the MSE to be pioneer in entering new market or developing new product of adopting a new method of production (Asad et al., 2016a).

3.2.2 Innovation

Innovation means to innovate new products and services and to identify new ways of producing the products and services (Asad et al., 2016b).
The primary objective was to enhance the performance by using entrepreneurial orientation.

3.2.3 Size

The size has been divided into two micro enterprises and small enterprises. The enterprises having fewer than 10 employees were considered as micro enterprises and the enterprises having employees between 10 and 20 were considered as small enterprises.

3.2.4 Performance of MSEs

As the study dealt with MSEs. The basic problem of these MSEs was informality. These MSEs especially in the developing countries like Pakistan do not keep formal accounting records, therefore, the perception of the owners regarding sales growth, assets growth and product development have been taken as the measures of performance (Asad et al., 2016a,b).

3.3 Sampling and Population

The entire province of Punjab, Pakistan was taken as population. The list of MSEs operating in Punjab have been taken from SMEDA from the sampling frame. On the basis of the formula, a sample size of 384 was drawn (Zikmund, et al., 2012).

3.4 Data Collection

The self-administered questionnaire was sent to the potential respondents along with a covering letter and self-addressed stamped envelope. This usually enhances the response rate. Furthermore, follow-up calls were also made to the respondents who did not reply within the prescribed time of 15 days (Collis & Hussey, 2009).

3.5 Measurement of Variables

The variables will be measured with the help of a structured questionnaire. The self-administrative seven-point Likert scale questionnaire has been adopted to measure the variables. Seven-point Likert scale is used because it is considered as more reliable in measuring the variable (Cooper & Schindler, 2006).

3.5.1 Reliability of the instrument

For ensuring the reliability of the research instrument, Cronbach’s alpha has been calculated. If the calculated value of Cronbach’s alpha is more than 0.7 then the scale is considered as reliable (Creswell, 2013). All the variables have a Cronbach’s alpha value of above 0.7 (See Table 1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk taking</td>
<td>0.813</td>
</tr>
<tr>
<td>Pro-activeness</td>
<td>0.827</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.759</td>
</tr>
<tr>
<td>Size</td>
<td>0.712</td>
</tr>
<tr>
<td>Performance of MSEs</td>
<td>0.913</td>
</tr>
</tbody>
</table>

4. Data Analysis

For analyzing the data, initially the data was entered in SPSS 22. The initial tests of normality were conducted on SPSS 22. The descriptive and the normality of the variables used in the study have been mentioned in Table 2.
Table 2
Descriptive and normality

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk taking</td>
<td>4.1205</td>
<td>0.76781</td>
<td>0.5895</td>
<td>-1.058</td>
<td>-0.383</td>
</tr>
<tr>
<td>Pro-activeness</td>
<td>4.2597</td>
<td>0.95093</td>
<td>0.9043</td>
<td>-1.128</td>
<td>-0.401</td>
</tr>
<tr>
<td>Innovation</td>
<td>3.8947</td>
<td>0.89563</td>
<td>0.8022</td>
<td>-1.012</td>
<td>0.296</td>
</tr>
<tr>
<td>Size</td>
<td>3.5590</td>
<td>0.63989</td>
<td>0.4095</td>
<td>1.249</td>
<td>0.587</td>
</tr>
<tr>
<td>MSE Performance</td>
<td>4.1327</td>
<td>0.71519</td>
<td>0.5115</td>
<td>-0.965</td>
<td>-1.050</td>
</tr>
</tbody>
</table>

After ensuring that the data is good for analysis PLS3 was used for testing direct relationship, mediation, and moderation.

4.1 Direct Relationships

Initially, the direct relationships have been investigated to find the direct effects of risk taking and pro-activeness on performance of MSEs. Fig. 2 shows the algorithms and bootstrapping for getting beta values and the \( t \) values to confirm the significance of the variables. The figure shows the results of the direct relationships that have been calculated through PLS Algorithms.

![Fig. 2. PLS Bootstrapping Direct Relationships](image)

In this step bootstrapping has been conducted to identify the \( t \) value in order to confirm the significance of the independent variables the results are explained in the table below for better understanding. The results of the analysis are as follows in Table 3 as follows,

Table 3
Direct relationships

<table>
<thead>
<tr>
<th>Paths</th>
<th>Path coefficients</th>
<th>T statistics</th>
<th>P values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk taking → Performance of MSEs</td>
<td>0.20</td>
<td>2.46</td>
<td>0.01</td>
</tr>
<tr>
<td>Pro-activeness → Performance of MSEs</td>
<td>0.38</td>
<td>4.60</td>
<td>0.00</td>
</tr>
</tbody>
</table>

4.2 Mediation Testing

After ensuring that the direct relationship exists between the independent variables and the dependent variable, mediation tests have been conducted. The same procedure for mediation has been applied, initially PLS algorithms have been calculated then bootstrapping has been applied and the results are shown in Fig. 3 and Fig. 4. In order to confirm that either the mediation holds or it is necessary, the effect of
independent variable on mediator one should be significant and likewise the effect of mediator on dependent should also be significant. Secondly the direct relation should be insignificant or less than the indirect effect. In order to check the significance of mediation, the product of direct effects is divided by the product of standard error of the direct effects between independent and mediation and mediating and dependent.

![Fig. 3. Algorithms Mediation](image1)

![Fig. 4. Bootstrapping Indirect Relationships](image2)

The next step is bootstrapping in order to identify the significance of mediation. The importance and significance of mediating variable can also be identified through the fact that the value of $r^2$ has increased significantly. The results of mediation bootstrapping are mentioned in Fig. 4. The figure shows the mediation testing and Table 4 presents the results.

**Table 4**

<table>
<thead>
<tr>
<th>Paths</th>
<th>Path coefficients</th>
<th>T statistics</th>
<th>P values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk taking $\rightarrow$ Innovation $\rightarrow$ Performance of MSEs</td>
<td>0.03</td>
<td>1.97</td>
<td>0.04</td>
</tr>
<tr>
<td>Pro-activeness $\rightarrow$ Innovation $\rightarrow$ Performance of MSEs</td>
<td>0.05</td>
<td>2.19</td>
<td>0.01</td>
</tr>
</tbody>
</table>

The significance of mediating variable is assessed by dividing them into two significant paths and the results of t-value show the significance of mediation in the model. The results show that innovation significantly mediates the relationship between risk-taking and performance of MSEs ($\beta_{03}$; $t=1.97$; $p<.04$). Similarly, innovation also significantly mediates the relationship between pro-activeness and performance of MSEs in Pakistan. The results of Partial Least Square Equation Model (PLS-SEM) reflect the significance of mediation effect of innovation of both the relationships between risk taking and performance and pro-activeness and performance of micro and small enterprises in Pakistan.

4.3 Moderation Tests

After ensuring that the mediation was significant the next step was to identify the effect of enterprise size on the relationships among risk taking, pro-activeness, and innovation, and relationships among risk taking, pro-activeness, and performance of MSEs. The importance and significance of moderator can be identified from the fact that after ensuring the moderation effect, the value of $r^2$ has increased. Fig. 5 shows the path coefficients of moderation effects. In order to identify the significance of the moderator the next step is bootstrapping which is performed in Fig. 6. The abovementioned figures ensure the significance of the moderation effect. For further understanding the results are mentioned in Table 5.

**Table 5**

<table>
<thead>
<tr>
<th>Paths</th>
<th>Path coefficients</th>
<th>T statistics</th>
<th>P values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk taking $\times$ Size $\rightarrow$ Performance of MSEs</td>
<td>0.26</td>
<td>1.98</td>
<td>0.030</td>
</tr>
<tr>
<td>Pro-activeness $\times$ Size $\rightarrow$ Performance of MSEs</td>
<td>0.27</td>
<td>2.01</td>
<td>0.008</td>
</tr>
<tr>
<td>Innovation $\times$ Size $\rightarrow$ Performance of MSEs</td>
<td>0.32</td>
<td>2.21</td>
<td>0.001</td>
</tr>
</tbody>
</table>
The path coefficients of the moderation of risk taking, size and performance of MSEs ($\beta=0.26; t=1.98; p<.03$) are significant. The moderating relationship of size between pro-activeness, and performance of MSEs ($\beta=0.27; t=2.01; p<.00$) are also significant. Similarly, the size of enterprise again moderates the relationship between innovation and performance of MSEs ($\beta=0.32; t=2.21; p<.00$). The results of the Partial Least Square Equation Model (PLS-SEM) have revealed that the size of enterprises could moderate the relationship between risk taking and performance, pro-activeness and performance as well as innovation and performance.

5. Conclusions

The current era is very competitive; all enterprises take the challenge of innovation to survive in the competitive environment. Innovation is also important for the enhancement of profits in the local markets. MSEs are now moving towards new markets by innovation. According to the new markets for earning more profits, enterprises try to change themselves differently through the development of new policies (Asad et al., 2016). Enterprises try to make enhancement for performing better on the market. This study has been conducted to investigate the factors that may directly or indirectly influence performance of organizations. Through this research it has been identified that entrepreneurial orientation and innovation were very important for improvement in performance of MSEs. Innovation plays a significant mediating role to enhance performance. The degree of entrepreneurial orientation and the level of innovation is higher in small enterprises as compared with micro enterprises.

5.1 Suggestions for Future Research

As discussed earlier, much of the studies were conducted on either large enterprises or relatively medium sized enterprises. Previous studies have mainly compared the large enterprises with small enterprises. And we could hardly find that was conducted on the comparison between MSEs, even though MSEs constitute a major portion in the economy of Pakistan. Further research is needed in the area to investigate the similarities of the different sizes of the enterprises under various contexts. More especially it has been observed that entrepreneurial networking has a major role for enhancing the performance of MSEs. Addition of entrepreneurial networking and other factors that are considered important only for large or medium enterprises may also provide fruitful results for enhancing the performance of MSEs.

References


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