ENTREPRENEURIAL LEARNING AND ORGANISATIONAL PERFORMANCE: TEST OF THE MEDIATING EFFECTS OF INNOVATIVENESS AMONG SMALL AND MEDIUM ENTERPRISES

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ABSTRACT

Although the relationship between entrepreneurial learning and the performance of small and medium enterprises (SMEs) has been established in the literature, the mechanisms that explain this relationship remain unclear. To address this lacuna, the present study proposed innovativeness as a mediator between entrepreneurial learning and SMEs performance. Furthermore, in this study we employed a cross-sectional research design and tested a series of hypotheses using partial least squares structural equation modeling (PLS-SEM). The sample comprised of 268 SMEs operating in Kano metropolis’s manufacturing sector in the northwest geo-political zone of Nigeria. Results showed that entrepreneurial learning was positively related to SMEs performance. Also, the results indicated that innovativeness plays a significant role in mediating the relationship between entrepreneurial learning and SMEs performance. Implications and recommendations for future research are discussed.

Keywords: Entrepreneurial learning; organisational performance; innovativeness; small firm

1. INTRODUCTION

In both developed and developing countries, the contribution of small and medium enterprises (SMEs) to overall economic growth cannot be underestimated. For example, SMEs play a key role in the European Union economy by employing 88.8 million people, and contributing €3,666 trillion in valued added (Muller et al., 2014). Relatedly, SMEs also contributed...
substantially to the economies of the Association of Southeast Asian Nations (ASEAN) by contributing up to 97% of employment, as well as 58% to the Gross Domestic Products (GDP) (Economic Research Institute for ASEAN and East Asia, 2014). In the high-income countries, including Austria, Australia, Germany and Canada, the contribution of SMEs to the GDP and employment were up to 55% and 65% respectively. Equally, in the United Kingdom, SMEs contributed 60% to total employment and up to 47% of the private sector’s turnover (Department for Business Innovation & Skills, 2015). In developing countries, particularly Nigeria, SMEs contributed 70% to GDP and 95% to total employment (SMEDAN, 2012).

Given the significant contribution of SMEs to both developed and developing economies, several empirical studies have been conducted to identify the underlying factors that explain SME performance (Abubakar & Mahmood, 2016a; 2016b). To date, some of the theoretical constructs that have been identified as an important predictors of SME and firm performance include entrepreneurial orientation (Jalali et al., 2014), market orientation (Hult & Ketchen, 2001), information and technology competency, among others (Tippins & Sohi, 2003).

Despite the abundance of empirical studies, little research has explored the effect of entrepreneurial leaning on business performance in general. Entrepreneurial leaning has been defined as “the process by which people acquire, assimilate, and organize newly formed knowledge with preexisting structures—and how learning affects entrepreneurial action” (Holcomb et al., 2009). From a conceptual point of view, Politis (2005) suggested that entrepreneurial learning is an experiential process where enterprising persons continuously develop their entrepreneurial knowledge throughout their professional lives, thereby improving their business performance. This conceptual argument is also supported by experiential learning theory (Kolb, 1981). According to experiential learning theory, a firm that could enhance its performance by acquiring, assimilating, and organizing newly formed knowledge with preexisting structures (Holcomb et al., 2009).

Accordingly, in line with few extant researches (e.g., Deakins & Freel, 1998; Leiva et al., 2014; Palacios-Marqués et al., 2011; Zhang, 2012), we argued that based on entrepreneurial learning plays a significant role in predicting SME performance. In particular, our argument is based on the work of Leiva et al. (2014) who established a significant and positive relationship between entrepreneurial learning in new firms’ performance. Similarly, this reasoning is also consistent with Deakins and Freel (1998) who argued that entrepreneurial learning is an important consideration in growth process of SMEs.

While extant empirical studies have established a significant and positive relationship between entrepreneurial learning and firm performance in general,
there is a paucity of research examining the fundamental mechanism through which entrepreneurial learning explains SME performance. Accordingly, this study proposed innovativeness as a fundamental reason behind entrepreneurial learning - SME performance relationship. Innovativeness refers to “creativity and experimentation in introducing new products/services, and novelty, technological leadership and R&D in developing new processes” (Lumpkin & Dess, 2001).

Innovativeness matters because it enhances business performance. There is also considerable empirical evidence showing innovativeness is positively related to SME performance (e.g., Lisboa et al., 2011, Lumpkin & Dess, 1996, Merlo & Auh, 2009, Rauch et al., 2009). Furthermore, beside the fact that entrepreneurial learning plays an important role in determining SME performance, it can also facilitate firms’ ability to be innovative in introducing new products/services with potentially large returns on investment. Based on the literature, we argued that innovativeness serve as a mediator between entrepreneurial learning – SME performance relationship. Therefore, based on the above empirical evidence and experiential learning theory described previously, the following hypotheses are advanced:

Hypothesis 1: There will be a positive relationship between entrepreneurial learning and SME performance.

Hypothesis 2: Innovativeness will mediate the relationship between entrepreneurial learning and SME performance.

2. METHOD

2.1. Sample and procedure

Our sample is comprised of small and medium enterprises operating in Kano metropolis’s manufacturing sector in the northwest geo-political zone of Nigeria. Kano metropolis was chosen in the present study because is the second largest commercial city in Nigeria after Lagos. Given that our unit of analysis is organisational, owners/managers completed the research questionnaires on behalf of their organizations because they stand in a better position to give relevant information needed related to their firms.

We used self-administered questionnaires to collect data. We distributed 352 packets that included a cover letter, the questionnaire and a self-addressed stamped envelope. Two hundred and seventy-nine surveys were returned; however, due to missing values and multivariate outliers, the final sample size
was reduced to 268 for a valid response rate of 76%. Of the 268 SMEs invited to participate in this study, predominantly were incorporated as limited liability companies (54.1%), partnership (34.3%) and Sole proprietorship (11.6%). Most respondents indicated their firm employed less than 50 employees (61.6 %) and more than 50 employees (38.5 %) in their businesses.

2.2. Measures

Entrepreneurial leaning: Ten items were adopted from Mannes (2013) to measure entrepreneurial leaning. Furthermore, these items adopted were rated on a 4-point Likert scale ranging from 1 = (strongly disagree) to 4 = (strongly agree). Sample item from the measure of entrepreneurial learning is, “Our firm acquired manufacturing technologies and skills entirely new to the firm”.

Innovativeness: Innovativeness was measured using the five-item scale developed by Hurley and Hult (1998). A 4-point Likert response format 1 = (strongly disagree) to 4 = (strongly agree) was also adopted. Sample item is, “In our firm, management actively seeks innovative ideas”.

SME performance: To measure SME performance, we adapted ten items from the work of Al-Ansaari et al. (2015). A 4-point Likert response format 1 = (strongly disagree) to 4 = (strongly agree) was utilized. Sample item for this scale is, “Over the past 3 years, our firm’s performance level in terms of cost reduction has been very satisfactory”.

2.3. Analytical approach and model estimation

The analytical and estimation approach adopted in the present study was partial least squares structural equation modeling (PLS-SEM). This approach was chosen for four reasons. First, PLS-SEM approach has the ability to simultaneously estimate the relationships between latent constructs, as well as the relationships between indicators and their corresponding latent constructs (Henseler et al., 2009, Hair et al., 2013a). Second, PLS-SEM approach has advantage of providing statistically reliable estimates of indirect effects in simple mediation models based on bootstrapping techniques, which employs standard errors for path coefficients (c.f., Baron & Kenny, 1986; Hair et al., 2013a, Kock, 2014; Preacher & Hayes, 2008,). Third, the present study is prediction-oriented, aimed at explaining the effect of entrepreneurial learning and innovativeness on SME performance. As such, PLS-SEM approach is deemed appropriate. Fourth, regarding the tool of analysis, SmartPLS 2 (Ringle et al., 2005) was chosen on the basis of its friendly graphical user interface, which help users to create and estimate a PLS path model easily. Consistent with Anderson and Gerbing’s (1988) general recommendations, as well as PLS-
SEM-specific guidelines, put forward by Henseler et al. (2009), we first tested the measurement model before considering the structural model. This was followed by the supplementary PLS-SEM analysis (i.e., mediator analysis).

3. RESULTS

3.1. Measurement model

To establish the reliability and validity of measures, individual item reliability, internal consistency reliability, convergent validity, as well as discriminant validity were evaluated (Henseler et al., 2009, Hair et al., 2013a, Hair et al., 2012) as presented in Table 1. First, individual item reliabilities were evaluated by examining the outer loadings of each construct’s measure (Hulland, 1999). Following Hair et al.’s (2013a) benchmark for retaining items with loadings between .40 and .70, out of 25 items, only 3 were deleted having loadings below the benchmark of .40. Hence, in the whole model, 22 items with loadings between 0.60 and 0.90 were retained. Second, as the upper bound for the true reliability, internal consistency reliability was examined by means of composite reliability coefficient (Hair et al., 2013b). It is generally recommended that the composite reliability coefficient for each latent construct should exceed 0.70 (Bagozzi and Yi, 1988).

As shown in Table 1, the composite reliability coefficients, which range between 0.90 and 0.92, demonstrate adequate internal consistency reliability, as each was above 0.70 as traditionally recommended by Bagozzi and Yi (1988). Third, to ascertain the convergent validity, the Average Variance Extracted (AVE) for each latent construct was analyzed. Generally, the AVE for each latent construct should exceed 0.50 (Bagozzi and Yi, 1988, Hair et al., 2013a). As shown in Table 1, the AVE for each latent construct has exceeded the threshold value of 0.50, hence, suggesting satisfactory convergent validity. Finally, Fornell-Larcker’s criterium was used to ascertain the discriminant validity of measures as shown in Table 2. According to Fornell and Larcker (1981), discriminant validity is established only if the AVE for each latent construct is statistically significant and exceeds its squared correlation with any other construct. In Table 2, the squared correlations among the latent constructs were compared with the square root of the AVEs (values in bold face). Table 2 suggests adequate discriminant validity as the AVE for each latent construct exceeded its squared correlation with any other construct (Fornell & Larcker, 1981).
3.2. Structural model

Having ascertained the reliability and validity of the measurement model, we then evaluated the structural model. Based on the assessment criteria recommended by Henseler et al. (2009), as well as Hair et al. (2013a), three metrics were used to judge the structural model, namely the significance of path coefficients, coefficient of determination ($R^2$), and the cross-validated redundancy ($Q^2$). Furthermore, to assess the significance of path coefficients, we followed Preacher and Hayes’ (2004, 2008) procedures for estimating indirect effects in mediation models by first testing the structural model which does not include a mediating variable. The results are presented in Table 1 and Table 2.

Table 1. Results of measurement model

<table>
<thead>
<tr>
<th>Construct and indicators</th>
<th>Loadings</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial leaning</td>
<td>0.90</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>EL01</td>
<td>0.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL02</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL03</td>
<td>0.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL04</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL05</td>
<td>0.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL07</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL08</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL10</td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovativeness</td>
<td>0.92</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>IN01</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN02</td>
<td>0.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN03</td>
<td>0.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN04</td>
<td>0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN05</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SME performance</td>
<td>0.90</td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>PF02</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF03</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF04</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF05</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF06</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF07</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF08</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF09</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF10</td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Table 2. Discriminant validity of measures

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>Entrepreneurial leaning</th>
<th>Innovativeness</th>
<th>SME performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial leaning</td>
<td>0.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovativeness</td>
<td>0.64</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>SME performance</td>
<td>0.55</td>
<td>0.54</td>
<td>0.72</td>
</tr>
</tbody>
</table>

“Diagonal elements are the square root of the variance shared between the constructs and their measures (AVE). Off-diagonal elements are the correlations among constructs”.

Table 3. Results of structural model without a mediating variable

<table>
<thead>
<tr>
<th>Exogenous variable</th>
<th>Bootstrapping</th>
<th>Direct effect</th>
<th>t-value</th>
<th>Percentile 95% confidence intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial leaning</td>
<td>0.55</td>
<td>15.41***</td>
<td>[0.56; 0.56]</td>
<td></td>
</tr>
</tbody>
</table>

* p < 0.10, ** p < 0.05, *** p < 0.01 (one-tailed test).

Endogenous variable: SME performance

As shown Figure 1 and Table 3, there was a statistically significant positive relationship between entrepreneurial leaning and SME performance (β = 0.55, t = 15.41, CI = [0.56; 0.56], p < 0.01). Hence, Hypothesis 1 was fully supported. Next, the structural model was tested after incorporating a mediating variable as presented in Figure 2 and Table 4.

Table 4. Results of structural model after including a mediating variable

<table>
<thead>
<tr>
<th>Exogenous variable</th>
<th>Bootstrapping</th>
<th>Indirect effect</th>
<th>t-value</th>
<th>Percentile 95% confidence intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial leaning</td>
<td>0.20</td>
<td>5.84</td>
<td>[0.64; 0.65]</td>
<td></td>
</tr>
</tbody>
</table>

As indicated Figure 2 and Table 4, entrepreneurial leaning has a significant positive relationship with innovativeness, which in turns predicted SME performance in a positive direction. The indirect effect of entrepreneurial leaning (β = 0.20, t = 5.84, CI = [0.64; 0.65], p < 0.01) via the mediator variable innovativeness was also found to be significant (Table 4).
Similarly, the relationship between entrepreneurial leaning and SME performance remains significant (Figure 2; $\beta = 0.35$, $t = 6.99$, CI = [0.35; 0.36], $p < 0.01$) but, with a difference of 0.20, which is significantly lower than when innovativeness was not included. As such, innovativeness mediates the relationship between entrepreneurial leaning and SME performance, which lends support for Hypothesis 2. Regarding the coefficient of determination ($R^2$), the model demonstrates that the percentages of explained variance for the SME performance and innovativeness were 0.36 and 0.41, respectively. This suggests that the model accounts for 36% and 41% of explained variance for the SME performance and innovativeness, Falk and Miller (1992) recommended that the coefficient of determination for an endogenous latent construct should be at least 0.10. Accordingly, following Falk and Miller’s (1992) benchmark for determining acceptable level of coefficient of determination, it can be concluded that the two endogenous latent variables demonstrate acceptable levels of R-squared values.

Finally, we assessed the model’s predictive validity, using cross-validated redundancy measure $Q^2$ (Geisser, 1974; Stone, 1974). Cross-validated redundancy measure is sample re-use techniques consisting of cross-validation and function fitting that fits PLS-SEM like a hand in a glove (Wold, 1982). Henseler et al. (2009), suggested that a research model with $Q^2$ statistic (s) greater than zero is indicative of predictive relevance. As shown in Figure 1, the cross-validation redundancy measures $Q^2$ for the direct effect model was 0.16. Hence, this suggest that the direct effect model has predictive relevance (Henseler et al., 2009). On the other hand, in Figure 2, the cross-validation redundancy measures $Q^2$ for the indirect effect model was 0.19, which also suggests that the indirect effect model has predictive relevance.
4. DISCUSSION AND CONCLUSION

Although research has established a positive association between entrepreneurial leaning and SME performance, it is not fully clear why this occurs. Accordingly, the present study replicated and extended prior research by proposing and examining innovativeness as an explanatory mechanism behind this relationship. Thus, the present investigation replicated and extended prior research in the following ways. First, this study replicated prior findings (e.g., Deakins & Freel, 1998; Leiva et al., 2014; Palacios-Marqués et al., 2011; Zhang, 2012,) demonstrating that entrepreneurial leaning is a crucial factor in predicting SME performance. Hence, as hypothesized, the results of this investigation supported the positive relationship between entrepreneurial leaning and SME performance. Second, as noted above, while prior studies have examined the direct relationship between entrepreneurial leaning and SME performance, the present study extended past research by proposing and testing a mediation model to explain more about a mechanism through which innovativeness is translated into SME performance (e.g., Lisboa et al., 2011, Lumpkin & Dess, 1996, Merlo & Auh, 2009, Rauch et al., 2009). Specifically, we argued that entrepreneurial leaning facilitates firms’ ability to be innovative in introducing new products/services with potentially large returns on investment.

While the results of this study provide an initial support regarding the role of innovativeness as a mediating link between between entrepreneurial leaning and SME performance, before conclusions can be drawn, a number of limitations of this study must be acknowledged. First, the empirical results of this study are limited to a relatively small sample of small and medium enterprises in Kano, Nigeria, and the research design is considered somewhat exploratory in nature, which does not provide the final answers to the research question. Therefore, future research is encouraged to cover a broader sample of SMEs from other states of Nigeria, particularly the remaining geo-political zones of Nigeria.

Second, the present study has focused mainly on innovativeness as a mediating link. Future research should consider other strategic orientations, such as proactiveness as a missing link between entrepreneurial leaning and SME performance. Finally, as suggested by Podsakoff, MacKenzie, and Podsakoff (2012), when a research is conducted using survey, common method variance (CMV) may become a key concern. Although we used Harman’s one-factor test to confirm that CMV is not an issue in our, future research might replicate this study by collecting data for each construct at different time to further minimize common method bias. Despite the limitations, the results of this study offer some practical implications. For instance, the results suggest
that entrepreneurial leaning was positively associated with innovativeness, which in turns predicted SME performance. Thus, SMEs can enhance their performance by through entrepreneurial leaning, as well as innovativeness to help them achieve a sustained competitive advantage.

In conclusion, the present study has provided an initial support for innovativeness as a mediating link between entrepreneurial leaning and SME performance. Theoretically, this study has also added to the domain of experiential learning theory by replicating past studies that examined the direct influence of entrepreneurial leaning and SME performance. Accordingly, small and medium enterprises could enhance its performance by acquiring, assimilating, and organizing newly formed knowledge with preexisting structures (Kolb, 1981).

REFERENCES


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