Role of Market Orientation on Innovation Orientation of Manufacturing SMEs in the Accra Metropolis, Ghana

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Abstract - This study was designed to examine the role of market orientation on innovation orientation of manufacturing SMEs in the Accra Metropolis, Ghana. SMEs have been touted by many economies as the backbone for their growth and hence, economic development. Nonetheless, many seem to struggle in gaining access to market and appropriate technology required for expansion. In the light of this, this study investigated this issue within the context of a developing nation, Ghana. The research approach adopted for this study was quantitative. The simple random sampling technique was adopted to select 346 manufacturing SMEs from the sample frame obtained from NBSSI, while PLS-SEM was employed to analyze the correlation between market orientation and innovation orientation. The study revealed that customer orientation and inter-functional coordination had significantly positive relationships with innovation orientation. Nonetheless, competitor orientation did not have a significant relationship with innovation orientation. This shows that manufacturing SMEs that search and satisfy the needs of customers and also share information about customers across their organizations stand tall in improving their operational processes, products and market activities.

Keywords: Market orientation, Innovation orientation, SMEs, Accra Metropolis, Ghana

1. Introduction

Market orientation has well been attended to by marketing academics since the start of 1990s. This is due to its general recognition in helping organizations to implement their marketing concept (Agarwal, Erramilli, & Dev, 2003; Lio, Chang, Wu & Katrichis, 2011). The marketing concept refers to the philosophy of marketing that signifies a shift from market of sellers (inside-out approach) to market of buyers (outside-in approach). This concept was touted in the literature as it helps firms to adopt long-term strategic orientation to marketing, as against the short-term tactical approach to marketing (Webster, 1988).

The hypersensitive nature of competition among various establishments driven by globalization of markets has exerted pressure on most businesses (Kwak, Jaju, Puzakova & Rocereto, 2013) with SMEs being the most affected establishments due to their peculiarities. As such, many researchers have argued that the survival of businesses in these difficult moments hinges on their ability in seeking and satisfying the needs and wants of customers (see Wiklund, 1999; Atuahene-Gima & Ko, 2001; Matsuno, Mentzer & Özsomer, 2002;
Kumar, Jones, Venkatesan & Leone, 2011). As a result, marketing concept has been employed by many firms to overcome this delicate hurdle. In support of this claim, some researchers, such as Deshpandé, Farley and Webster (1993), Atuahene-Gima and Ko (2001), Hult, Hurley and Knight (2004), Bhuian, Menguc and Bell (2005), Baker and Sinkula (2009), and Kwak et al. (2013), averred that incorporation of market orientation in the affairs of the firm is indeed a necessity to attain higher return and level of innovation by these business establishments. Similarly, Jaworski and Kohli (1993) noted that market orientation offers solutions to improve market conditions, which reflects innovative behavior.

From the stance of resource-based view (RBV), market orientation is an intangible resource of a firm, which is viewed as a firm's proclivity in providing quality value for its customers (Narver & Slater, 1990). It involves comprehension of customers and competitors’ actions as well as placing customers at the center of business operations, in order to attain sustainable competitive advantage (Narver & Slater, 1990; Zhao & Tamer Cavusgil, 2006). The aforementioned indicate that market orientation is a philosophy that needs to be employed by businesses if they want to stay ahead of competition.

SMEs, which are touted by various countries as the backbone for their growth and for forming the greater portion of their commercial landscape (Suprapto, Wahab, & Wibowo, 2009; Yoshino & Taghizadeh-Hesary, 2015), are bedeviled with numerous issues, such as access to market and appropriate technology (Abor & Quartey, 2010). In view of this, further studies are required to examine if market orientation can enhance innovative capabilities of SMEs so as to reverse the problems. The extant literature on market orientation and performance relationship lacks information regarding the influence of market orientation on innovation orientation construct (Maldonado, Dias, & Varvakis, 2009; O'Regan, Ghobadian, & Sims, 2006; Rochina-Barrachina, Mañez, & Llopis, 2010). The few identified works on the influence of market orientation on innovation orientation are also not within the Ghanaian context, hence the need for this present study. In line with the foregoing, this study sought to determine the influence of market orientation on innovation orientation among manufacturing SMEs in a developing nation setting, Ghana.

2. Literature Review

2.1. Market Orientation

Market orientation has generally been recognized as the degree to which operations and strategies of organizations are designed to respond to market demand fluctuations (Sivageahnam, Al Mamun, Nasir & Ibrahim, 2015). Market orientation has been established in the literature as an essential construct of strategic orientation through which resources of organizations are converted to valuable outputs to customers (Mamun, Mohiuddin, Fazal & Ahmad, 2018). Mamun et al. (2018) asserted that thorough knowledge of market orientation can aid organizations exploit opportunities in the marketplace, which can enhance the performance of such establishments. Mahmoud, Blankson, Owusu-Frimon, Nwankwo and Trang (2016) advanced that market orientation is the origin of new product and services ideas, thus possessing the tendency of influencing the extent of innovation in organizations. In the view of Kohli and Jaworski (1993), market orientation is imperative in helping put marketing concept into action. It is, therefore, crucial to look at the stages that lead to the emergence of marketing concept. Keith (1960) is one of the earliest contributors of the marketing concept. This author asserted that marketing concept begun with the production era, which was viewed as a period where the supply of goods by firms fell short of demand.
and the most important focus of the firms was profit seeking to the neglect of plight of customers. The author added that the journey to the marketing phase has been an evolutionary process.

The marketing era emerged in the early 1950s as companies began to realize that the inside-out approach to marketing did not guarantee their success in the marketplace, but rather the outside-in approach (Dibb, Simkin, Pride & Ferrell, 2001; Boachie-Mensah & Issau, 2015). This led to the advent of the marketing concept. The viewpoint of marketing concept is that every marketing process should begin with identification of customer needs. McKitterick (1957) supported this view by advancing that marketers should not concentrate on getting customers to dance to the tune of the producers, but instead, take customers’ needs satisfaction as a priority.

Although the marketing concept has been prominent among other philosophies, some challenges are embedded. The challenge with the concept is about its limited operational value and idealistic corporate policy (Barksdale & Darden, 1971). Nevertheless, the challenge is eradicated by applying market orientation (Kohli & Jaworski, 1990). The concept of market orientation has been operationalized in many ways by different authors in the extant literature. Nonetheless, the dominating perspectives with respect to the operationalization have often been either cultural or behavioral perspective. The cultural perspective as advanced by Narver and Slater (1990) view market orientation as an organizational culture comprising three behavioral components of equal importance: customer orientation, competitor orientation, an inter-functional coordination while that of behavioral perspective offered that market orientation is a behavioral activities comprising market intelligence generation, dissemination of intelligence and responsiveness to it (Kohli & Jaworski, 1990).

Deshpande, Farley and Webster (1993) challenged these perspectives by arguing that market orientation should be seen as different from competitor orientation, but instead, similar to customer orientation. The authors opined that customer interest must be placed at the central point in defining market orientation, and not competitors. The viewpoint highlighted by the authors is consistent with the advancement made by pioneering scholars. Deng and Dart (1994), in the operationalization of market orientation, developed a four-factor instrument composed of three factors listed by Narver and Slater (1990), in addition to profit orientation that is basically a decision criterion of Narver and Slater (1990). Gray, Matear, Boshoff and Matheson (1998) combined the components outlined by Kohli and Jaworski (1990) and Narver and Slater (1990) to provide a five-factor instrument to operationalize market orientation. In addition, Lado, Nora, Maydeu-Olivares, Albert, Rivera and Jaime (1998) proposed nine components for the operationalization of market orientation. In developing the model, the authors added distributor orientation and environmental orientation to the three main components provided by Narver and Slater (1990). As a result of the variances in classifying market orientation, Homburg and Pflesser (2000) averred that market orientation should be regarded as a multi-layered cultural construct.

Although each perspective contributes to the progress of market orientation concept, a culturally-based stance is often adopted by researchers due to its ability in aiding businesses to gather data related to specific issues, and not general issues about the market.
2.2. Innovation Orientation
The competition among various establishments is a result of globalization. This situation has exerted pressure on firms and has forced them to seek opportunities that can enhance their status and aid in becoming innovative in order to comprehend and respond to market demands. The rationale behind the development of innovative behavior by firms is that it is a construct that derives from firm’s performance (Jones & Tilley, 2003). Degraff and Quinn (2007) described firm innovation as the commitment to improve work procedures by developing deep understanding of all levels within the organization.

Nguyen and Pham (2009) and Bigliardi and Domio (2009) claimed that firm innovation can be regarded as the extent to which an establishment introduces new product, new production processes, modifies the existing products, and exploits new territorial markets and segments within existing markets. The definition reflects four types of firm innovation, namely product innovation, process innovation, market innovation and product modification. Vermeulen (2005) claimed that new product development is essential for SMEs. The author added that product innovation is not limited to new products development, but also improvement of existing products. In line with the assertion made by Vermeulen (2005), one can logically conclude that product innovation embodies product modification.

Conversely, the types of innovation identified by Henderson and Clark (1990) were incremental, radical, modular and architectural innovation. In view of Baker and Sinkula (2002), the innovation types identified were process, product/service, and strategy, whilst radical and incremental innovations are considered as the degree of newness. In respect of varied forms of innovation available for firms, Natalia and Ilnes (2009) opined that firms can opt for more than one form of innovation, but care should be taken with respect to increasing risk associated with it.

2.3. Market Orientation and Innovation Orientation
Despite the availability of several works on market orientation, works by Kohli and Jaworski (1990), and Narver and Slater (1990) are mostly recognized. A study by Atuahene-Gima (1996) on Australian firms displayed a significantly negative correlation between market orientation and product newness. This means; market orientation did not influence an organization to engage in innovative activities to produce superior value for its customers. The author asserted that the influence of market orientation on innovation process is based on the industry in which firms operate. A study by Verhees and Meulenberg (2004) on SMEs found that market orientation did not promote product innovation in highly innovative firms, but stimulated innovation in less innovative firms. The contradictory nature of these findings calls for further studies on the constructs.

Han, Kim and Srivastava (1998), and Mahmoud et al. (2016) claimed that innovation is a supporter of the conversion of market-oriented business philosophy into superior firm performance. Market orientation influences firm innovation, thus making a firm to produce superior value for its customers. Mahmoud et al. (2016) provided that innovation mediates between market orientation and firm performance. Thus, innovation can be considered as an important variable that aids market orientation to provide organizations the performance that they deserve. AL- Dmour and Ahmad Amin (2012) investigated the effect of market orientation on service innovation in Jordanian Information and Communication Technology (ICT) sector, in which the results indicated a statistically and significantly positive effect of market orientation and its components on service innovation, except for intelligence.
It was revealed from the study that competitor orientation is the most influential component to service innovation.

In the same vein, Dev, Agarwal and Erramilli (2008) assessed the linkages among market orientation, innovation and performance of firms in the hotel industry, wherein the findings showed the positive link between market orientation and innovation. Correspondingly, Erdem, Gül and Gül (2013), on the relationship between market orientation, innovation orientation and firm performance with data gathered from 40 hotel enterprises in Ankara, supported the positive correlation between the study variables. Newman, Prajogo and Atherton (2016) established that both customer and competitor orientations are positively related to innovation. Based on these findings, the authors stated that firms that are deeply concerned about their market orientation stand a better chance in promoting their innovation.

Song, Wei and Wang (2015) averred that although positive impact was found between market orientation and innovation performance of organizations, the influence may be strengthened based on the type of ownership structure deployed by organizations. The authors claimed that deployment of market orientation by non-state owned organizations is highly recommendable. This is because the contribution of market orientation to innovation in those firms is more profound compared to state-owned organizations. The findings may be due to the lackadaisical attitude that employees exhibited in some state-owned organizations. Significantly positive relationship was also established among customer orientation, competitor orientation and inter-functional coordination, as well as organizational creativity, listed by Wang and Miao (2015). A study by Ozkaya, Droge, Hult, Calantone and Ozkaya (2015) indicated that the impact of customer orientation and competitor orientation on innovation was greater among firms in USA, as compared to firms in China. These findings signify that contextual differences may influence how market orientation elements affect innovation. Hence, one can argue that higher level of economic liberalization found in the USA could have accounted for the differential impact of the above study. In light of the aforementioned argument, the conceptual framework depicted in Figure 1 was developed for the study.

3. Methodology

3.1. Research Approach and Study Design
The quantitative research approach was adopted in this study due to its importance in permitting the researcher to cover a wide range of situations. The choice of the approach was also influenced by the study objectives, whereby the researcher analyzed the study outputs numerically. The correlational design was selected to aid the examination of the relationships between the study variables.

3.2. Population and Sample Size
The target population for this study was owners or managers of manufacturing SMEs established in the Accra metropolis. The Krejcie and Morgan (1970) table was employed to determine the sample size, which arrived at 346 from the total list of 3485 manufacturing SMEs obtained from National Board for Small Scale Industries (NBSSI) in the Accra metropolis. The simple random sampling technique was used to select the sample. Out of the 346 questionnaires administered to the respondents, 81% were successfully utilized.
3.3. Constructs Measurement
The scale for Narver and Slater (1990) for measuring market orientation was adapted and utilized in this study, whilst that of Nguyen and Pham (2009) and Birgliardi and Domio (2009) were adapted to measure innovation orientation. Narver and Slater’s (1990) conceptualization of market orientation was adopted because of its support in the literature for assisting firms to understand the specific issues about the market, rather than general issues. The conceptualization of innovation orientation by Nguyen and Pham (2009) and Birgliardi and Domio (2009) were employed to gain deeper understanding of the various ways by which manufacturing SMEs engage in innovation.

3.4. Research Instrument
Questionnaires were applied to gather information regarding market orientation and innovation orientation of manufacturing SMEs. The variables of interest were also measured using the five-point Likert-type rating scale with 1 denoting Low Agreement and 5 denoting High Agreement.

3.5. Procedure for Data Collection and Analysis
Data collection took place in the first quarter of 2014. The data collection was preceded by a pre-test to fine tune the questionnaire. This was necessitated based on the assertion by Pallant (2007) that pre-testing ascertained clarity with respect to instructions, questions and scale items. After assessment of the outliers, the Partial Least Squares-Structural Equation Modelling (PLS-SEM) technique was applied to analyze the correlations between the variables of interest. According to Haenlein and Kaplan (2004), Henseler, Ringle and Sinkovics (2009), and Ronkko and Evermann (2013), PLS-SEM technique permits the simultaneous modelling of the relationship among latent variables by combining regression and factor analyses within the measurement model in each run. The PLS-SEM technique was adopted due to its importance in avoiding the need for large sample sizes and normalized data (Hair et al. 2014).

4. Findings
Both measurement and structural models were evaluated in this study. However, the evaluation of the structural model was preceded by the measurement model assessment.

4.1. Measurement model
Measurement model was evaluated in order to determine the validity and reliability of the constructs. Tables 1 and 2 present the outcomes.

Table 1. Reliability and Validity Assessment

<table>
<thead>
<tr>
<th>Item</th>
<th>Loadings Min-Max</th>
<th>Cronbach's Alpha</th>
<th>Composite Reliability</th>
<th>AVE</th>
<th>R²</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitor Orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.756-0.836</td>
<td>0.814</td>
<td>0.878</td>
<td>0.642</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.735-0.789</td>
<td>0.764</td>
<td>0.849</td>
<td>0.585</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-functional Coordination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.854-0.889</td>
<td>0.899</td>
<td>0.929</td>
<td>0.766</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.672-0.824</td>
<td>0.884</td>
<td>0.908</td>
<td>0.587</td>
<td>0.358</td>
<td>0.351</td>
</tr>
</tbody>
</table>

Notes: Loadings between 0.4 and 0.7 are acceptable, >0.7 is high. Cronbach’s α > 0.7 is acceptable and high. Composite reliability should be 0.7 or higher. AVE should be 0.5 or higher. R² of 0.75 is substantial, 0.50 is moderate, and 0.25 is weak.
Examining the outer loadings of the latent variables, as presented in Table 1, indicated that the loadings were between 0.672 and 0.889. The indicators of the abovementioned loadings were retained in the model because they all met the set thresholds. Composite reliability scores and AVE values in Table 1 also reflect good reliability and validity for the model. The discriminant validity values in Table 2 signify no discriminant validity issue for the model.

4.2. Structural Model
The outcomes of the structural model shown in Table 3 indicate that the structural model and the beta paths for Customer Orientation → Firm Innovation and Inter-Functional Coordination → Firm Innovation were statistically significant (p < 0.05) (see Table 3). Nevertheless, the Competitor Orientation → Firm Innovation structural model and the beta paths were not statistically significant (p > 0.05). The findings tabulated in Figure 2 indicate that the three latent variables “Competitor orientation, customer orientation and inter-functional Coordination” moderately explained 35.8% of the variance in “Firm innovation”. Adequate predictive relevance was achieved for the study model, as depicted in Table 4. The
numbers on the path coefficients illustrated in Figure 2 displayed that “Customer Orientation” had a relatively strong effect on “Firm innovation” (0.399), whilst “Inter-functional coordination” and “Competitor orientation” variables had a moderate impact (0.172 and 0.130, respectively) on “Firm Innovation”.

Table 3. Bootstrapping results

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Beta</th>
<th>Std Deviation</th>
<th>T-Value</th>
<th>P Values</th>
<th>F²</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoO→ FI</td>
<td>0.130</td>
<td>0.084</td>
<td>1.545</td>
<td>0.123</td>
<td>0.013</td>
</tr>
<tr>
<td>CuO→ FI</td>
<td>0.399</td>
<td>0.062</td>
<td>6.476</td>
<td>0.000</td>
<td>0.156</td>
</tr>
<tr>
<td>IfC→ FI</td>
<td>0.172</td>
<td>0.074</td>
<td>2.323</td>
<td>0.021</td>
<td>0.029</td>
</tr>
</tbody>
</table>

Notes: (a) The critical t-value is 1.65 for a significance level of 10%, 1.96 for a significance level of 5% and 2.58 for a significance level of 1% (all two-tailed). (b) CoO: Competitor orientation; CuO: Customer Orientation; IfC: Inter-functional Coordination; Fl: Firm Innovation (c) Effect size of 0.02, 0.15, and 0.35 indicates small, medium, and large effect, respectively.

Table 4. Predictive Relevance (Q²)

<table>
<thead>
<tr>
<th></th>
<th>SSO</th>
<th>SSE</th>
<th>Q² (=1-SSE/SSO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitor Orientation</td>
<td>1,124.000</td>
<td>1,124.000</td>
<td></td>
</tr>
<tr>
<td>Customer Orientation</td>
<td>1,124.000</td>
<td>1,124.000</td>
<td></td>
</tr>
<tr>
<td>Firm Innovation</td>
<td>1,967.000</td>
<td>1,593.454</td>
<td>0.190</td>
</tr>
<tr>
<td>Interfunctional Orientation</td>
<td>1,124.000</td>
<td>1,124.000</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Predictive relevance of 0.02, 0.15 and 0.35 indicates small, medium and large effect respectively.

In checking for the path coefficients’ significant level, “T-Statistics” bootstrapping procedure was run. Using a two-tailed t-test with a significance level of 5%, the path coefficient should be significant if the T-statistics exceeds 1.96. The linkages revealed in this study are as follows: Customer Orientation → Firm Innovation and Inter-functional Coordination → Firm Innovation. They are statistically significant with the exception of Competitor Orientation → Firm Innovation with T-statistics at 1.545.

5. Discussion

The study objective is to determine the influence of market orientation on the innovation orientation of Manufacturing SMEs in the Accra metropolis. PLS-SEM was employed to meet this objective. The study outcomes, as evidenced in Figure 2, indicated that “Customer Orientation” had a relatively strong positive effect on “Firm innovation” (0.399). “Inter-functional coordination” and “Competitor orientation” variables displayed moderate positive impacts (0.172 and 0.130, respectively) on “Firm Innovation”. The result, as presented in Table 3, further asserted that only the relationships between “Customer Orientation” & “Firm Innovation” and “Inter-Functional Coordination” & “Firm Innovation” were statistically significant (p < 0.05), but that of “Competitor Orientation” and “Firm Innovation” was not statistically significant (p > 0.05). The implication of the findings is that, an increase in customer orientation and inter-functional coordination would result in an increase in innovation orientation of manufacturing SMEs in the Accra Metropolis, while changes in competitor orientation is not significant in attaining innovation orientation. This means; manufacturing SMEs that strive in searching for current and future needs of customers to satisfy them and also sharing information about customers across the organization stand tall in improving their operational processes, products and market activities. In line of the aforesaid, it is therefore important for owners of the SMEs to ensure that issues pertaining to placing customers at the center of business operations are shared within their respective units.
This is bound to enhance their process, product and market innovations. The study findings are in line with the conclusions reached by Baker and Sinkula (2009), AL-Dmour and Ahmad Amin (2012) and Kwak et al. (2013) that incorporation of marketing activities in the affairs of the firm is a necessity to attain higher level of innovation. The insignificantly positive correlation between “Competitor Orientation” and “Firm Innovation” may be a reluctance of the SMEs to formally embrace “Competitor Orientation” and the resultant effect thereof on “Firm Innovation”. With respect to the influence of the three independent constructs on “Firm Innovation”, the findings portrayed in Figure 2 reveal that the three independent constructs jointly accounted for 35.8% of the variance in “Firm Innovation”. This means; 64.2% of variations in “Firm Innovation” are accounted by factors not considered in this study.

6. Conclusions and Recommendations

As this study found directly positive relationships between market orientation elements and innovation of manufacturing SMEs in the Accra metropolis, it is important for such entities to be more market-oriented to enhance their level of innovation. Owners of the SMEs should see customer needs satisfaction as a priority and must extend it across the entire organization. The businesses should not relent in their effort in ensuring synergy regarding information dissemination of customer needs to all functional areas in the firm as this would improve upon innovation orientation. Finally, owners of SMEs should not look down on the actions of their competitors despite its insignificant relationship with firm innovation. This is because; neglecting competitors’ actions in the marketplace is likely to lead to loss of customers to competitors. Therefore, the manufacturing SMEs that engage in market orientation activities are likely to be more innovative in their dealings.

The study is limited to SMEs in the Accra metropolis for year 2014 and this renders the result of the study applicable mainly to these establishments. The collection of data from only managers/owner managers, along with failure to group the respondents’ firms into small and medium, is a shortcoming of this study. Based on the limitations of this study, it is important for future studies to expand the study area and gather information from both management and employees. Future studies also should group the respondents’ firms into small and medium.

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