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MARKET ORIENTATION AND NEW PRODUCT SUPERIORITY AMONG SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs): THE MODERATING ROLE OF INNOVATION CAPABILITY

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The study explored the effects of the individual dimensions of market orientation on the superiority of new products introduced unto the market by SMEs, as well as the moderating role of innovation capability on these relationships. Analysis was based on 373 SMEs whose respondents were either employee-managers or owner-managers. Confirmatory Factor Analysis was conducted to check for validity and reliability of the observed items. A hierarchical regression model was estimated to test the various hypotheses set for the study. Findings revealed that customer orientation and inter-functional coordination had a positive and significant effect on new product superiority; however, competitor orientation had no significant effect. Innovation capability positively moderated the effects of customer orientation, competitor orientation and inter-functional coordination on new product superiority. This indicates the crucial role of SMEs' innovative capability in leveraging the effect of competitor orientation on new product superiority.

Keywords: Market orientation; new product superiority; SMEs; innovation capability.

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Introduction

Small and Medium-sized Enterprises (SMEs) are very critical in the economic growth of many nations. SMEs remain an important source for employment and resource allocation (Cunningham and Rowley, 2007). Among the Organisation for Economic Cooperation and Development (OECD) countries for example, SMEs account for 99% of all enterprises (OECD, 2017), and contribute to about 60% of total employment, with 50–60% of value added (OECD, 2019). For emerging economies, SMEs contribute about 45% of total jobs, and 33% towards GDP (OECD, 2017). When informal businesses are taken into account, SMEs contribute to over 50% job creation and GDP in many countries, whether developed or developing (IFC, 2010). Similarly, in Europe, SMEs constitute 99% of all business, and provided 85% of new jobs (European Commission, 2019).

SMEs are regarded as efficient, innovative and dynamic, and their small size encourages short decision-making chain, immediate feedback, flexibility, and better appreciation and response to customer needs (Singh *et al.*, 2008). SMEs are however, faced with fierce competition from fellow SMEs and large firms (both domestic and international), directly and indirectly. Technological changes, globalisation and changing customer preferences also add to the mounting pressure to keep SMEs on their toes to deliver superior product than their competitors (Acosta *et al.*, 2018; Covin and Miller, 2014).

In delivering superior products (goods and services) to customers, market orientation has remained a very useful tool for firms' new product success (Najafi-Tavani *et al.*, 2016; Pantouvakis *et al.*, 2017; Takata, 2016; Selmi and Chaney, 2018; Wren *et al.*, 2000). Prior studies (Boso *et al.*, 2013; Kirca *et al.*, 2005; Baker and Sinkula, 2005) have however indicated that some potential variables could influence the relationship between market orientation and the performance of new products. Studies such as Akman and Yilmaz (2008) presents a direct relationship between market orientation and innovation capability, while Migdadi *et al.* (2017) also found innovation capability to mediate the relationship between market orientation and firm performance. However, considering the potential of resource-based theory (Barney, 1991) in explaining the effect of market orientation on the performance of new products (as compared to competitors), the innovation capability of an SME could significantly moderate the effect of market orientation on the superiority of new products. SMEs with much knowledge on the market could capitalise on their capability to innovate, to develop products that would be much superior to the competition. That is to say, the potential of an SME to leverage on market orientation largely depends on its innovative abilities. Much has not been done in this area, especially bearing in mind SMEs from Sub-Saharan Africa.

Concentrating the study on Sub-Saharan Africa is also important as SMEs account for 95% of businesses, provide 60% of employment and contribute 50% of GDP (Kamunge *et al.*, 2014). Despite the significant contribution of SMEs in Sub-Saharan Africa, 60% job creation is low, compared to 85% from Europe. Findings from this current study will therefore help furnish SMEs with strategies to improve performance for an increase in contribution to national economy.

The remaining part of this paper is organised into literature and theoretical review, methods, results and discussions, conclusion and contributions, and limitations and direction for future research. An acknowledgement was also provided at the end of the paper.

Literature and Theoretical Review

Market orientation

Market orientation is defined as the extent to which firms use marketing concepts in making strategic and tactical marketing decisions (Kohli and Jaworski, 1990; Narver and Slater, 1990). Kumar *et al.* (2011) also defined market orientation as the essential practices engaged by firms to gain competitive advantage in the market. We also define market orientation as the commitment towards the understanding of market dynamics, and the sharing of this market knowledge with members of an organisation to offer superior value for customers.

Two popular models have been widely used in measuring firm's market orientation, and these are MKTOR and MARKOR. MKTOR was developed by Narver and Slater (1990), and has three dimensions, namely, customer orientation, competitor orientation and inter-functional coordination. MARKOR was also developed by Kohli and Jaworski (1990) and has three dimensions, namely, gaining information, dissemination of information, and planned and implemented response. This current study however adopts MKTOR (customer orientation, competitor orientation and inter-functional coordination) developed by Narver and Slater (1990). This study considers market orientation as an organisational culture, and as such adopted MKTOR scale, which Abou-Warda (2014) classified as cultural dimension of market orientation.

Innovation capability

Rogers (1995) defined innovation capability as the ability to coordinate innovation processes beginning from the determination of customer needs, research, development and the commercialisation of the innovation through diffusion and adoption by users. Innovation capability is also defined as "the ability to continuously transform

knowledge and ideas into new products, processes and systems for the benefit of the firm and its stakeholders” (Lawson and Samson, 2001, p. 384). Lawson and Samson (2001) also considered innovation capability as the theoretical framework targeted at unfolding the actions necessary to enhance the success of innovation activities. Innovation capability represents the “main processes within the firm and cannot be separated from the main practices because innovation capability is the potential to carry out the practices” (Saunila and Ukko, 2014, p. 33). Innovation capability is regarded as a firms’ strategic resource, which provides competitive advantage (Fidel *et al.*, 2018). Organisational innovation is very critical for SMEs as they have the ability to reorganise their business processes to accommodate for innovation (Gallego *et al.*, 2013). Innovation capability helps SMEs keep up with the changing market demands (Yeşil *et al.*, 2013; Zhang *et al.*, 2013).

Customer orientation, innovation capability and new product superiority

Products are introduced unto the market by firms with the motive of competing well in the market. This goal is however not always realised. Schuhmacher *et al.* (2018) identified two major reasons for the failure of new products introduced unto the market. Firstly, they identified the knowledge gap between customers’ actual needs and the offering of the firms. Secondly, they identified that new products which are not superior to that of competitors are also likely to fail in the market. Akman and Yilmaz (2008) thus emphasised that, a comprehensive understanding of customers’ needs coupled with firm’s ability to innovatively meet the needs of customers, are a prerequisite for the survival of new products introduced unto the market. Due to the reducing switching cost and changing customer preferences in this present age, firms with innovative capability are the ones able to catch up with customer demands. Fidel *et al.* (2018) defined customer orientation as the extent to which firms acquire and use knowledge obtained from customers to develop strategies in meeting customer needs, and the responsive implementation of these strategies in meeting customer needs and wants.

A responsive firm does not just assess the needs of actual customers, but assesses the needs of potential customers as well (Han *et al.*, 1998). Firms therefore try to enhance their capabilities in responding to the needs of customers (Sulistyo and Siyamtinah, 2016; Mitrega *et al.*, 2017; Zaefarian *et al.*, 2017; Najafi-Tavani *et al.*, 2018). Ziggers and Henseler (2016) found customer orientation as a strategic asset that enhanced firm’s superior performance. However, the interactive effect of customer orientation and firm’s innovation capability stimulates the performance of new products introduced unto the market (Wilson *et al.*, 2014). From the perspective of core competency, greater innovation capability

motivates a firm to embrace market-oriented strategy, which aids in identifying the potential and actual needs of customers for the development of new product ideas (Cannon and Homburg, 2001; Verhees and Meulenbergh, 2004).

Vorhies *et al.* (2009) identified that firms that are committed to delivering superior value to customers are more likely to also develop their innovation capability to remain more responsive towards customers. An organisational culture that emphasises customer orientation therefore enhances their innovative capability (Zhang and Hartley, 2018). Kirca *et al.* (2005) concluded in their study that customer-oriented firms remain more innovative than firms which place less emphasis on customer orientation. Morgan *et al.* (2018) also concluded in their study that customer participation positively and significantly affected new product performance. Based on previous studies, the first two hypotheses are stated as;

H1: *Customer orientation has a positive effect on new product superiority.*

H2: *Innovation capability positively moderates the effect of customer orientation on new product superiority.*

Competitor orientation, innovation capability and new product superiority

Dauda and Akingbade (2010) explained competitor orientation as the analysis of competitors' strategies and activities, and the development of suitable response to those strategies and activities. Schuhmacher *et al.* (2018) suggested that new products which are not superior to that of competitors are also likely to fail in the market. New products could succeed when they are unique and superior to competitors (Grainer and Padanyi, 2005), and this could only be achieved through innovation. Lings and Greenley (2009) explained that an organisation that emphasises competitor orientation become more innovative. Competitor-oriented firms assess their own capabilities vis-à-vis competitors, and determines how to react to competitors' strengths. Based on this, some researchers such as Božić (2007) is of the opinion that competitor orientation promotes imitation of competitors' activities, instead of enhancing innovation and creativity among firms. This notwithstanding, Božić and Ozretic-Došen (2015) indicated that competitor orientation helps to spot competitive opportunities, which becomes an useful asset in the introduction of new products unto the market. Identifying competitive opportunities helps firms to capture the market, by leveraging on their innovative capabilities. The combination of competitor orientation and innovation capability enhances product-market innovativeness, by designing products that are unique from competitors, for the satisfaction of the expressed needs of customers (Hsiao and Hsu, 2018). The third and the fourth hypotheses are thus stated as;

H3: *Competitor orientation has a positive effect on new product superiority.*

H4: *Innovation capability positively moderates the effect of competitor orientation on new product superiority.*

Inter-functional coordination, innovation capability and new product superiority

Members in an organisation are sometimes faced with uncertainties resulting from the lack of a clearly defined procedures in delivery some aspects of their job (Golovko and Valentini, 2011). Inter-functional coordination among the various units of the firm helps to reduce these uncertainties, since the various units are intertwined. Inter-function coordination also reduces conflicts and duplication of work by different units in same organisation, and enhances inter-dependency and mutual trust (Zhou and Wu, 2010). Inter-functional coordination thus provides an organisational culture that promotes innovative ideas among employees (Yalcinkaya et al., 2007).

Inter-functional coordination enhances the exchange of market data and information (regarding customers, competitors, opportunities and threats) among the various units of a firms. These exchanges boost innovativeness within the firms; thus, innovation cannot be successful without inter-functional coordination (Atuahene-Gima and Murray, 2007). Inter-functional coordination provides a platform for all units of a firm to work coherently. This platform influences the innovative capability of a firm, by providing the necessary conditions needed for innovation. Exchanging relevant market knowledge among the various units of the firm would enable firms with innovative capability to exploit the market opportunities and develop a more superior product that would be successful when introduced onto the market (Minguela-Rata et al., 2010). The combined effect of innovation capability and inter-functional coordination leads to improved innovation performance, as it enables new product development projects to focus on product-market innovativeness (Hsiao and Hsu, 2018; Atuahene-Gima and Ko, 2001). Knowledge exchange among the various units of a firm enhances firm performance by improving business processes and products of firms (Du et al., 2007; Law and Ngai, 2008; van Woerkom and Sanders, 2010; Wang and Wang, 2012). From conclusions made in previous studies, the last two hypotheses are thus stated as;

H5: *Inter-functional coordination has a positive effect on new product superiority.*

H6: *Innovation capability positively moderates the effect of inter-functional coordination on new product superiority.*

Theoretical foundation and model

Market orientation and innovation capabilities are intangible assets which firms use in exploiting market opportunities. Since these assets are unique to firms, and help in achieving competitive advantage, resource-based theory is adopted for the study. Barney (1991) explained resource-based theory as the numerous resources possessed by firms which help in differentiating performance levels and gaining competitive advantage. Resource-based theory explains the relationship between firms' resources and their performance (Kozlenkova *et al.*, 2014), and these resources are considered as assets that help firms to be more effective and efficient than competitors (Wernerfelt, 1984). Although a firm has many tangible and intangible assets, RBT emphasises that competitive advantage is only gained with assets (resources) that are uncommon, valuable and difficult to imitate. This study proposes that market orientation dimensions (customer orientation, competitor orientation and inter-functional coordination) could be the intangible assets of the firm which could help in delivering new product superiority in the market. The innovation capability which is unique to firms (Ireland *et al.*, 2001; Archibugi and Coco, 2005), could also enhance the effects of the market orientation dimensions on the superiority of new products. Figure 1 presents the conceptual model for the study.

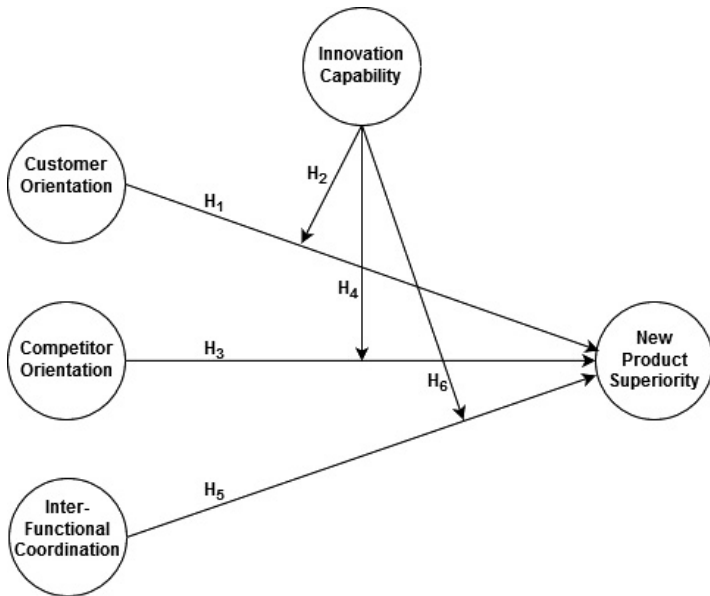


Fig. 1. Theoretical model.

Methods

Data collection

Data were gathered from 373 SMEs in Greater Accra region of Ghana. Each SME was given one questionnaire which was responded to by senior management members of the firm (who were either employees or owners of the firms). Employee-managers are employees in managerial level of the firm, while owner-managers are the owners who double as the executive member of the firm. The list of registered SMEs was obtained from NBSSI, which had name of business, year of registration, nature of business, contact and location. With purposive sampling, 1,000 SMEs who had operated for at least 5 years with full contact details (email, phone and postal address) were selected. First, a printed version of the questionnaire, cover letter and a postage-paid return envelope were sent to the general managers of these SMEs. Secondly, the web link to the online questionnaire and a cover letter were also emailed to the SMEs. After 6 weeks of data collection process, 373 questionnaires were appropriately filled and returned.

As presented in Table 1, the firms studied were dominated by manufacturing, followed by firms in the commerce industry. A number of different definitions exist for SMEs; however, that of National Board for Small Scale Industries (NBSSI) in Ghana was adopted for the study. NBSSI defined SMEs using either

Table 1. Descriptive analysis.

Firms and informant background	Frequency	Percentages (%)
Respondent	373	100.0
Employee-manager	271	72.7
Owner-manager	102	27.3
Industry or Sector of SME	373	100.0
Manufacturing	127	34.0
Commerce	101	27.1
Education	59	15.8
Hospitality	44	11.8
Health	42	11.3
Size SME	373	100.0
6–29 employees	157	42.1
30–99 employees	216	57.9
Age of SME	373	100.0
5–10 years	108	29.0
11–15 years	122	32.7
16–20 years	91	24.4
Above 20 years	52	13.9

“fixed asset” or “number of employees”. The definition using “number of employees” was however used for the study, because accessing the value of fixed assets for SMEs in Ghana was much more difficult. As indicated by NBSSI (1990), a Micro enterprise has less than 5 employees; Small enterprise has 6–29 employees; and Medium enterprise has 30–99 employees. All firms selected for the study had at least 6 employees or at most 99 employees. Firms selected were also at least 5 years old in operation, as could be seen in Table 1.

Measurement of variables

The various dimensions used in the study was developed from extant literature. Though a number of studies used the composite of market orientation in their analysis (Novixoxo *et al.*, 2018), others such as Ozkaya *et al.* (2015) and Ziggers and Henseler (2016), Ho *et al.* (2018) used the individual dimensions (customer orientation, competitor orientation and inter-functional coordination) in their model estimation. This study making reference to past literature and other variables used in the study, estimated the model using the individual dimensions of market orientation. Based on Narver and Slater (1990) who were the originators of these dimensions, and others researchers (such as Acosta *et al.*, 2018; Selmi and Chaney, 2018; Yaprak *et al.*, 2015), the individually observed items measuring the various dimensions of market orientation was developed.

The observed items used in measuring innovation capability were adapted from Liu *et al.* (2018). The observed dimensions measuring new product superiority was also adapted from some previous studies such as Li and Huang (2012), Najafi-Tavani *et al.* (2018), Pinna *et al.* (2018) and Morgan *et al.* (2018).

Validity and reliability check

Collecting self-reported cross-sectional data from a single key informant such as this study could result in common method bias (CMB). This study clearly indicated the dependent and independent variables to the different sections of the research instrument, as suggested by Podsakoff *et al.* (2003). Secondly, partial correlation approach was also adopted, to assess if any significant variations exist in the correlations between variables after restricting for a marker variable (Lindell and Whitney, 2001). CMB is said to be present after controlling for the marker variable (theoretically unrelated to at least one of the other constructs), when the correlations between the variables change significantly. Results however indicated that the zero-order and partial correlations were similar after restricting for the marker variables, and therefore concludes that common method variance was not a problem in this study.

Further, the study also assessed the validity and reliability of the measurement instrument by running a Confirmatory Factor Analysis (CFA) in STATA (v.15). As suggested by Brown (2006), factor loading should be at least 0.5. Cronbach's alpha (CA) and composite reliability (CR) is expected to be at least 0.7, and average variance extracted (AVE) is also expected to be greater than 0.5 (Fornell and Larcker, 1981). The coefficient of determination (CD) has no threshold, however, the larger the better. These thresholds were met for all the variables, as presented in Table 2.

Another consideration in running CFA is to check out for the goodness-of-fit indices. The Chi-squared (χ^2) is expected to be statistically insignificant at 5%, and Chi-squared divided by the degree of freedom (χ^2/df) is also expected to be less than 2 (Brown, 2006; Kline, 2005). The standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA) are expected to be less than 0.08, and Tucker–Lewis Index (TLI) and comparative fit index (CFI) are also expected to be above 0.95 (Brown, 2006; Kline, 2005). From the goodness-of-fit indices presented in Table 2, all these assumptions were met, implying that the data fit the model very well.

Another key assumption when estimating multiple regression model is multicollinearity (in this case, construct validity), that is, the extent to which the independent variables correlate with each other. A number of ways to check for multicollinearity exist. One is by just considering the inter-correlation figures for all the independent variables, and correlations scores of greater than 0.7 is considered as high. From Table 3, none of the inter-correlation scores was greater than 0.7. Another way of checking for the construct validity is to compare the square-root of the AVE ($\sqrt{\text{AVE}}$) with the inter-correlation score. The $\sqrt{\text{AVE}}$ is expected to be greater than the inter-correlation scores for each of the latent variables, to be considered as valid, an approach used by Bamfo et al. (2018) and Acosta et al. (2018) in their study. Table 3 pointed out that the $\sqrt{\text{AVE}}$ for all the latent variables were greater than their inter-correlations, thereby concluded as valid for model estimation. For example, the $\sqrt{\text{AVE}}$ for competitor was 0.733, greater than all the inter-correlation scores of 0.636, 0.378 and 0.457. This was further supported by the variance inflation factor (VIF) presented in Table 3. The VIF scores for all the variables used in the model estimation were less than 5, implying no confounding effect as the independent variables in the models were not same or similar to each other.

Model estimation

After the CFA analysis, the retained items were used in estimating a hierarchical regression model using SPSS (v.20). Three (3) models were estimated, with model 1 estimated the control variables (age of firm, firm size and industry) on the

Table 2. Confirmatory factor analysis.

Observed and latent variables	Factor coefficients							
Customer Orientation (CUST): CA = 0.8554; CR = 0.859; AVE = 0.606; CD = 0.877								
Customer comments in this firm often lead to change	0.7591254							
Our firm places much emphasis on after-sales service	0.8794086							
Our firm places much emphasis on complete understanding of customer needs	0.7485657							
Our firm places much emphasis on customer suggestions	0.7170455							
Competitor Orientation (COMP): CA = 0.8109; CR = 0.821; AVE = 0.538; CD = 0.840								
Our firm obtains knowledge on competitors	0.5648809							
Our firm offers efficient response to competitors' actions	0.7573945							
Our firm makes assessment on competitors' strategies	0.7763659							
Our firm follows competitors' marketing efforts	0.8108492							
Inter-Functional Coordination (INFC): CA = 0.8329; CR = 0.860; AVE = 0.558; CD = 0.888								
Our firm has a good departmental (units) integration	0.5774959							
All departments (units) in this firm work together during the formulation of strategies	0.8185805							
At meetings, knowledge is exchanged between the various departments (units)	0.8598805							
Our firm shares customer knowledge among all related departments	0.831631							
Our firm places much emphasis on continual communication among the various departments (units)	0.5963935							
Innovation Capability (INCA): CA = 0.8741; CR = 0.877; AVE = 0.642; CD = 0.884								
Our firm has the ability to gradually improve existing products/services	0.7453837							
Our firm has the ability to completely change existing process flow	0.8393856							
Our firm has the ability to rapidly provide new products/service	0.850828							
Our firm has the ability to completely change existing products/services	0.7632314							
New Product Superiority (NPSU): CA = 0.8615; CR = 0.863; AVE = 0.559; CD = 0.870								
Compared to competition, new products/services we introduce meet or exceed profit expectations	0.7573254							
Compared to competition, new products/services we introduce meet or exceed sales expectations	0.7713647							
Compared to competition, new products/services we introduce meet or exceed customer expectations	0.652467							
Compared to competition, new products/services we introduce meet or exceed market share expectations	0.7356378							
Compared to competition, new products/services we introduce meet or exceed return on investment expectations	0.8124164							
Overall model fit	χ^2	df	p -value	χ^2/df	SRMR	RMSEA	TLI	CFI
	9.27	5	0.173	1.854	0.036	0.0410	0.971	0.984

Table 3. Construct validity.

Latent variables	CUST	COMP	INFC	INCA	NPSU
CUST	0.778				
COMP	0.476**	0.733			
INFC	0.603**	0.636**	0.747		
INCA	0.402**	0.378**	0.530**	0.801	
NPSU	0.600**	0.457**	0.597**	0.716**	0.748

**p-value significant at 1% (0.01).

*p-value significant at 5% (0.05).

Square-root ($\sqrt{}$) of AVE are on the diagonal axis.

dependent variable (new product superiority – NPSU). The firm size was measured using the number of employees. The regression equation was thus;

$$NPSU = \alpha + \beta_1 \text{Age} + \beta_2 \text{Size} + \beta_3 \text{Industry} + \varepsilon. \tag{1}$$

In model 2, the main independent variables (customer orientation — CUST, competitor orientation — COMP and inter-functional coordination — INFC) and the moderating variable (innovation capacity — INCA) were added to model 1. The regression equation is thus;

$$NPSU = \alpha + \beta_1 \text{Age} + \beta_2 \text{Size} + \beta_3 \text{Industry} + \beta_4 \text{CUST} + \beta_5 \text{COMP} + \beta_6 \text{INFC} + \beta_7 \text{INCA} + \varepsilon. \tag{2}$$

In model 3, the interactive terms were added to model 2. The Residual centring approach was used in computing the interactive terms. First, the residuals of the three main independent variables (CUST, COMP and INFC) and the moderating variable (INCA) were calculated after which the residual of IC was multiplied with each of the independent variables (CUST, COMP and INFC). The results were subsequently used in the estimating model 3. The regression equation is thus;

$$NPSU = \alpha + \beta_1 \text{Age} + \beta_2 \text{Size} + \beta_3 \text{Industry} + \beta_4 \text{CUST} + \beta_5 \text{COMP} + \beta_6 \text{INFC} + \beta_7 \text{INCA} + \beta_8 \text{RES_CUSTxINCA} + \beta_9 \text{RES_COMPxINCA} + \beta_{10} \text{RES_INFCxINCA} + \varepsilon. \tag{3}$$

Results and Discussions

In model 1, two of the control variables (firm size and industry) had a significant effect on new product superiority. Age of firm however had no statistically significant effect on new product superiority. The positive coefficient of firm size indicates that larger firms (more employees) are able to develop more

Table 4. Regression output for the hypotheses.

Variables	Model 1	Model 2	Model 3	VIF	
Constant	2.948 (16.613**)	0.206 (1.153)	0.335 (1.880)		
Age	0.038 (1.126)	0.019 (0.883)	0.030 (1.436)	1.776	
Firm Size	0.111 (3.793**)	0.053 (2.831**)	0.057 (3.114**)	1.755	
Industry	0.160 (2.133*)	0.129 (2.745**)	0.102 (2.168*)	1.143	
CUST		0.265 (6.768**)	0.284 (7.279**)	1.701	
COMP		0.029 (0.605)	0.103 (0.062)	1.948	
INFC		0.385 (3.486**)	0.276 (4.308**)	2.102	
INCA		0.468 (11.999**)	0.477 (12.44**)	1.460	
RES_CUSTxINCA			0.245 (2.30*)	1.706	
RES_COMPxINCA			0.223 (2.567*)	1.814	
RES_INFCxINCA			0.341 (3.540**)	2.181	
Model	R	R ²	F	R ² Δ	FΔ
1	0.283	0.080	7.713**	0.080	7.713**
2	0.815	0.665	74.246**	0.585	114.291**
3	0.826	0.682	55.651**	0.018	4.774**

***p*-value significant at 1% (0.01); **p*-value significant at 5% (0.05); *t*-values are in parentheses.

superior products. From model 2, firm size and industry still remained statistically significant, while age remained insignificant. In model 3 where the interactive terms were added to the equation, age as a control variable still remained statistically insignificant, while firm size and industry also remained statistically significant.

From models 2 and 3, customer orientation had a significant effect on new product superiority ($\beta = 0.265$ & 0.284), respectively. This goes to confirm that SMEs that place customer at the heart of their operations are able to develop products that are superior to that of competitors. Customer-oriented firms pay particular attention to customer comments and complaints, which often leads to change in product offerings and processes. Customer-oriented firms know precisely what customers expect, and they deliver accordingly. Delivering what customers expect means customers will favour your offering over that of competitors. Customer-oriented firms do not just emphasise on complete understanding of customer needs and wants, but also emphasise after-sales service. Based on the study of multiple industry, [Ziggers and Henseler \(2016\)](#) found customer orientation as a strategic asset that enhanced firm's superior performance. Timing is of great essence when it comes to the introduction of new products to the market, as the right timing could give firms competitive advantage ([Afonso et al., 2008](#)). [Feng et al. \(2012\)](#) identified in their study that customer orientation significantly

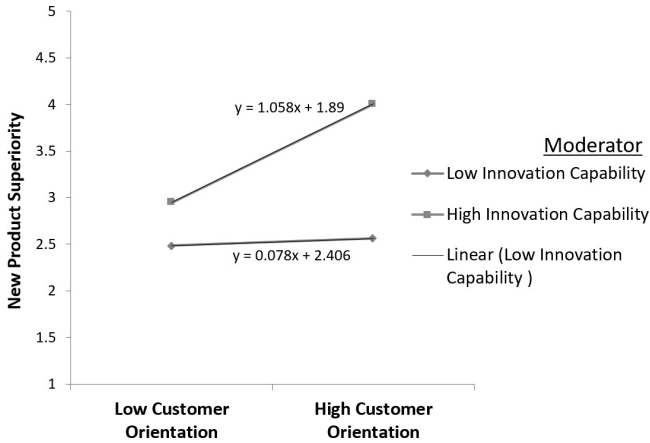


Fig. 2. Interactive effect of innovation capability and customer orientation on new product superiority.

reduced the time-to-market new products, and results were justified by resource-based and contingency theories. This study confirms hypothesis 1. In model 3, the interactive term of customer orientation and innovation capability had a positive coefficient of 0.245. This indicates that the effect of customer orientation on new product superiority is further boosted by SMEs with high innovative abilities. Figure 2 shows that innovation capability strengthens the positive relationship between customer orientation and new product superiority. Hypothesis 2 was thus confirmed.

From models 2 and 3, competitor orientation had no significant effect on new product superiority ($\beta = 0.029$ & 0.103), respectively. This implies that engaging in competitor orientation by SMEs did not guarantee the development of new products that outwit competition. This could probably result from the fact that most SMEs imitate each other, and therefore not much advantage exist to be leveraged from competitor orientation. Božić (2007) suggested that competitor orientation promotes imitation and reduces innovativeness among firms. Being less innovative could thus hamper the performance of new products in the market. Hypothesis 3 is therefore rejected. The interactive term of competitor orientation and innovation capability however had a positive and significant coefficient of 0.223. Figure 3 indicates that innovation capability strengthens the positive relationship between competitor orientation and new product superiority. Hypothesis 4 was therefore supported.

In models 2 and 3, inter-functional coordination had a significant effect on the development of superior products ($\beta = 0.385$ & 0.276), respectively. Implying that firms that share market information among the various units of the organisation are able to serve the market with much superior product. The concept of customer-centeredness concepts such as service quality, relationship management,

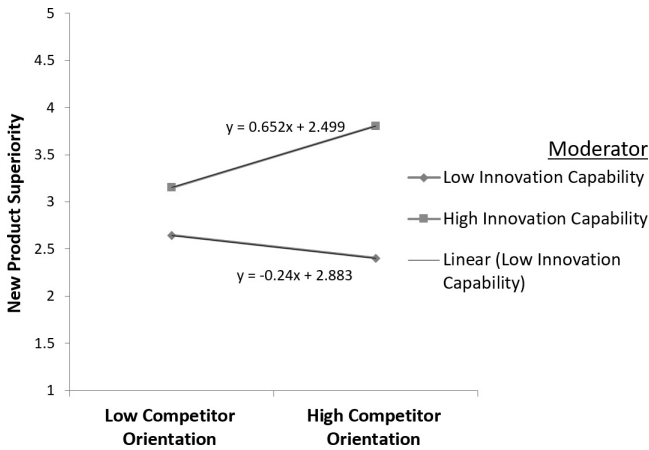


Fig. 3. Interactive effect of innovation capability and competitor orientation on new product superiority.

satisfaction, etc., are no longer the sole responsibility of the marketing and sales departments, which hitherto was proposed by [Olson et al. \(2018\)](#), [Giannakis and Harker \(2014\)](#) and [Chimhanzi \(2004\)](#). Customer-centeredness concepts are now the responsibility of the entire departments within the organisation. Sharing market knowledge among the various units in an organisation therefore greatly impacts the ability to develop a much superior product to customers. While the marketing department is responsible for gathering market information and product promotion, the finance department is expected to know the relevance of supporting such efforts; the Human Resources department is expected to recruit and train staff that are customer focused, and the operations department is expected to deliver products that meet the exact specification of the customers. Achieving this is not possible without effective inter-departmental orientation. As indicated by [Teece \(2007\)](#), knowledge represents an intangible asset that gives firms competitive advantage. Employees learn not just through self-experience, but from interacting with other employees. The interactions among employees help in facilitating the transfer of knowledge either through advice, offering assistance to each other or even through official meetings ([Kang and Kim, 2010](#); [Hutzschenreuter and Horstkotte, 2010](#)). [Minguela-Rata et al. \(2010\)](#) suggested that this shared knowledge serves as a source of new knowledge which makes firms more effective and efficient. Other studies have also indicated that knowledge sharing enhances firm performance by improving business processes and products of firms ([Du et al., 2007](#); [Law and Ngai, 2008](#); [van Woerkom and Sanders, 2010](#); [Wang and Wang, 2012](#)). Hypothesis 5 was thus supported. Finally, the interactive term of inter-functional coordination and innovation capability also had a positive

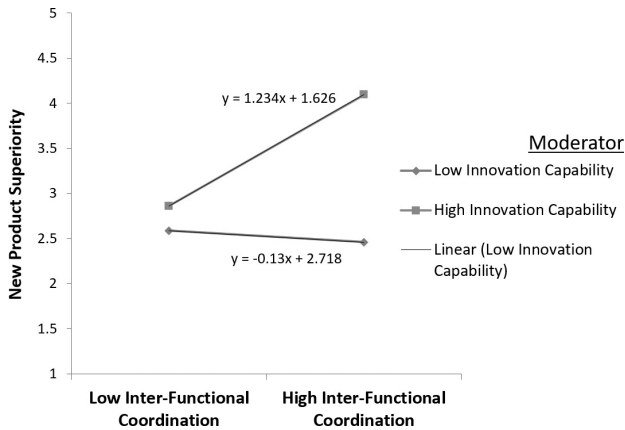
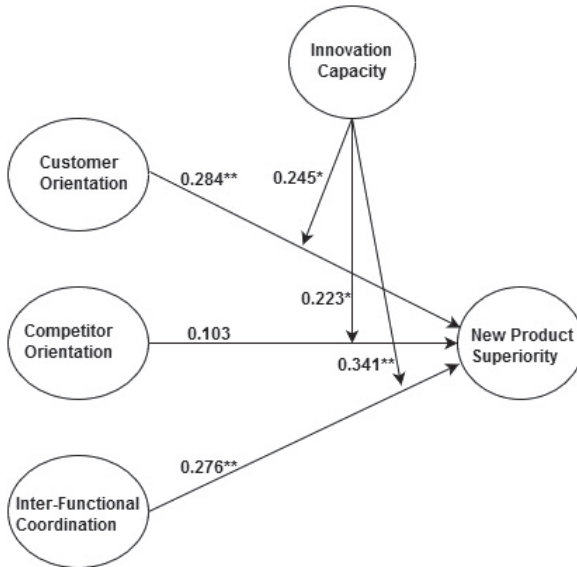


Fig. 4. Interactive effect of innovation capability and inter-functional coordination on new product superiority.

coefficient of 0.341. Figure 4 clearly depicts these relationships, by showing that innovation capability strengthens the positive relationship between inter-functional coordination and new product superiority. Hypothesis 6 was thus also supported.

The moderating variable (innovation capability) also had a statistically significant effect on new product superiority ($\beta = 0.468$ & 0.477), in models 2 and 3, respectively. This implies that SMEs that have the potential to be innovative are able to develop much superior product compared to competitors. SMEs with innovation capability are able to gradually improve upon existing products or completely change existing product. They are also able to quickly provide new products to the market or completely change the existing process flow. These abilities when translated into action, leads to the production of new product offerings superior to that of competitors (Najafi-Tavani et al., 2018; Zhang and Hartley, 2018). Hsiao and Hsu (2018) also found that innovative capability moderated the effect of market orientation on innovation performance of firms.

Overall, innovation capabilities of the SMEs positively moderated the effect that the three dimensions of market orientation had on developing new products that are superior to that of competitors. Going by the resource-based theory developed by Barney (1991), innovation capability which represents an intangible asset of SMEs, boosted the competitive advantage leveraged by SMEs from market orientation. The competitive advantage in this case represents the ability to develop much more superior product to that of competitors. In a study conducted by Morgan et al. (2018), customer participation was found to positively and significantly affect new product performance; however, this advantage is further enhanced by the absorptive capacity of the firms. From the moderation analysis in model 3, hypotheses 2, 4 & 6 were all supported.



Notes: ***p*-value significant at 1% (0.01); **p*-value significant at 5% (0.05).

Fig. 5. Path coefficients.

From the model summary attached to Table 4, model 1 (control variables) had a weak correlation with new product superiority ($r = 0.283$). In models 2 and 3, however, a high correlation between the independent and dependent variables ($r = 0.815$; $r = 0.826$, respectively) was noticed. The R -squared (R^2) for model 1 was 0.080, indicating the model could reliably explain only 8% of the changes in new product superiority. The R^2 for model 2 indicates the model explains about 66.5% of the changes in new product superiority, while model 3 also explains about 68.2% of the changes in new product superiority. The R -squared change ($R^2\Delta$) in model 2 was 0.585, and this was statistically significant ($F = 114.291$). Although the $R^2\Delta$ in model 3 was very low (0.018), the score was statistically significant ($F = 4.774$), indicating that the interactive terms contributed meaningfully to the model. Figure 5 presented the coefficients of various paths in the theoretical model.

Conclusion and Contributions

Firm size (as a control variable) measured by the number of employees had a positive and significant effect on developing superior products compared to competitors. Human resources do play a critical role in the developing of superior products to customers (de Guimarães *et al.*, 2016). SMEs must therefore pay much

attention to their human resources, when seeking to develop more superior products compared to competitors.

The prime motive of business entities is to make profit for owners, and this is made possible with the availability of customers. Customers represent the essence for the survival of business. Customer orientation thus forms a key component to the success of SMEs. Customer-centred SMEs are able to develop much more superior products compared to competitors. SMEs seeking to develop new products that would be much favoured by customers should pay much attention to customer orientation activities.

Inter-functional coordination had a positive and significant effect on new product superiority among SMEs. Customer orientation must not be left as the sole responsibility of the marketing and sales department. Marketers' ability to generate market knowledge is a necessity but not adequate, but this must be made available to all units within the firm. Sharing market knowledge among the various units of the firm will help SMEs to develop more superior products than competitors. Sharing market knowledge and other relevant information helps the various departments to make meaningful contributions to the development of a new product.

A key finding worth considering is the role of innovation capability on the effect competitor orientation has on new product superiority. The study found competitor orientation to have no significant effect on new product superiority; however, the interaction term between competitor orientation and innovation capability had a significant effect on new product superiority. The resource-based theory developed by Barney (1991) advocated that firms with unique capabilities are able to achieve competitive advantage. SMEs may have acquired knowledge about each other; however, this knowledge could only be leveraged by SMEs with innovation capability. Innovation capability becomes the unique resource of the individual SMEs that helps them in achieving competitive advantage, that is, the ability to develop much superior product compared to competitors.

Although customer orientation and inter-functional coordination within an SME had a significant effect on new product superiority, the innovation capabilities of the individual SME positively and significantly moderated this effect. That is to say, SMEs with more innovative abilities are able to harness the advantages that customer orientation and inter-functional coordination have on new product superiority.

Firms seeking to achieve superior performance for their new products should have enough comprehension of their target customers, so as to provide consistent superior value. Secondly, firms should comprehend the strengths and weaknesses of competitors both in short and long-terms. The capabilities and strategies of current and potential competitors must be well understood, in order to outperform

them. Lastly, there must be effective coordination among the various units of the firm, through effective market knowledge exchange.

Limitations and Direction for Future Research

Just as in any other research, this study is not without some limitations. The industry SMEs operated was added as a control variable and found to be statistically significant in affecting new product superiority. Future studies should therefore concentrate on a specific industry (preferably manufacturing), to reliably measure new product superiority in that industry, and the effects of market orientation and innovation capability. The current study however studied SMEs from multiple industries which may have different characteristics determining the implementation of market orientation and the introduction of new products.

Secondly, gathering data from top management of the firm could lead to potential CMB. Section 3.3 of this paper presents details of the analysis to check for CMB. Although the results showed CMV was not a challenge, application of the empirical result should factor in the characteristics of the studied firms.

Finally, the study was based on cross-sectional data, which may not effectively estimate the causal effects among the variables. The study was however based on well-established literature and theories, which enhances the reliability of the results. Future studies should however consider a longitudinal research.

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