Entrepreneurial Orientation as Antecedent of Business Model Innovation in Medium Enterprises in Kenya

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Abstract

This study investigated the influence of entrepreneurial orientation on business model innovation in medium enterprises in Kenya. The study was grounded on the dynamic capabilities view. A descriptive cross-sectional survey research design was adopted to achieve the study's objective. The sampling frame was the Klynveld Peat Marwick Goerdeler (KPMG) East Africa and the Nation Media Group annual Top100 companies in Kenya. Stratified random sampling was utilized to derive 221 companies that were used in the study. Primary data were collected from single respondents comprising senior managers of the participating firms. A total of 134 questionnaires were analysed. Ordinary least squares regression analysis revealed that entrepreneurial orientation positively and significantly influenced business model innovation in medium enterprises in Kenya. On the basis of the results, this study concluded that entrepreneurial orientation is necessary for enterprises to benefit from business model innovation. The study recommends that managers of medium enterprises in Kenya embrace entrepreneurial behaviour and attitude to enhance business model innovation practices. It is further recommended that policymakers should develop and implement policies that encourage innovation and entrepreneurial behaviour.

The study clarifies the position of entrepreneurial orientation in relation to BMI. Additional studies are recommended.

Keywords: Entrepreneurial orientation, business model innovation, medium enterprises, Kenya

Introduction

Medium enterprises constitute an essential cog in the global economy, contributing immensely to employment and value creation in many countries at different levels of development (Muriithi, 2017). They are considered a critical pillar in Europe's 2020 roadmap toward reaching smart, sustainable, and inclusive growth (Rotar et al., 2019). In the Kenyan context, medium enterprises are regarded as important because of their impact on the Gross Domestic Product (GDP) and employment generation. Based on Ndegwa et al. (2015), medium enterprises are essential players in terms of product and service innovations. Kenya's Vision 2030, the country's economic road map to industrial development recognises medium enterprises as critical in attaining its industrial development aspirations (the Republic of Kenya, 2012). Thus, efforts to enhance performance among medium enterprises will contribute to enabling the country to attain its development agenda by generating more jobs, solidifying sectors, and evolving business models that perform. Their importance suggests a need to be sufficiently examined to comprehend the drivers that can lead to improvement in their performance.

The background of entrepreneurial orientation as a firm-level construct is traced to the strategic management literature (Wales, 2016) and is applied to describe a firm whose apex managers exhibit entrepreneurial behaviour and attitude as demonstrated in their strategic decision making and operating philosophy (Gupta & Dutta, 2018). Although various conceptualisations have been advanced in literature (Anderson et al., 2015; Covin & Wales, 2019), Lomberg et al. (2017) observe that the literature on entrepreneurial orientation is mainly centered around two conceptualisations, that is, the Covin and Slevin (1989) and Lumpkin and Dess' (1996) conceptualisations. According to Covin and Sleven (1989), entrepreneurial orientation is characterised by a combination of innovativeness, risk taking, and proactiveness. Lumpkin and Dess (1996) on the hand view entrepreneurial orientation as a multidimensional construct exemplified by autonomy and competitive aggressiveness in addition to innovativeness, risk taking, and proactiveness. Thus, while Lumpkin and Dess consider the five dimensions of entrepreneurial orientation as independent from one another and therefore an enterprise would still be considered entrepreneurial even when only one indicator exists, Covin and Slevin's conceptualization considers an enterprise

to be entrepreneurial if all the three dimensions are evident in the way of managerial behaviour and action (Okeyo et al., 2016).

According to Wales (2016), researchers can adopt any concemptualisations that align with their research problem. This study adopted Covin and Slevin's conceptualisation in which an entrepreneurial orientated company is defined as that which "engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch" (Miller, 1983, p.771), According to Anderson et al. (2015), innovativeness characterises an enterprise's inclination to embrace new ideas, inventiveness, and experimentation in developing new products and processes. Proactiveness entails futuristic and opportunity-seeking tendencies that afford an enterprise a pioneering benefit over the competition by antedating future market trends. Risk taking on the other hand is about an enterprise's inclination to boldly commit resources towards initiatives portending high but unassured returns. This conceptualisation has been adopted successfully in preceding studies such as (Asemokha et al. (2019), Boucken et al. (2016), and Ferreras-Méndez et al. (2021).

Although entrepreneurial orientation is considered vital to an enterprise's enhanced performance (Ndemo & Aiko, 2016; Rauch., et al., 2009), a number of scholars have argued that entrepreneurial orientation might not have a direct influence on enterprise performance, hence, calling for the identification and assessment of immediate outcomes of entrepreneurial orientation (Markin et al., 2018; Wales et al., 2011). The calls to establish and assess the immediate outcomes of entrepreneurial orientation are attributed to mixed findings about the direct effect of entrepreneurial orientation on enterprise performance where some studies have reported negative or no significant effect contrary to those that have ascertained positive effect (Soares & Perin, 2019). According to Covin and Wales (2019), entrepreneurial orientation is characterised by dynamism and morphing causing a series of disruptions and network relationships requiring incessant management with the aim of capturing value, leading to a conclusion that entrepreneurial orientation independently is not a recipe for sustained enterprise success. Hence, the need to identify and assess synergistic variables through which entrepreneurial orientation enhances enterprise performance (Markin et al., 2018).

Concomitantly, business model innovation (BMI), which is described as a variation in the way a firm does its business that is novel to the firm and leads to evidential modifications in the way the firm creates, distributes, or captures value for all participants in the value chain including its customers (Bouwman et al, 2016), has been advanced as a source of enduring competitive edge and better performance (Afuah, 2014; Baden-Fuller & Haefliger, 2013;

Bashir & Verma, 2017; Casadesus-Masanell & Zhu, 2013; Chesbrough, 2010; Demil & Lecocq, 2010). More importantly, in an environment where product and process innovations are prone to imitation and therefore, shortened shelf life (Zott & Amit, 2012). Ndemo and Aiko acknowledge the prevalence of product imitation in Kenya and on the African continent generally, where intellectual property protection laws are underdeveloped underpinning the need for BMI. Kim and Mauborgne (2005) emphasised the need to eschew the traditional sources of competition for new ways of doing business, that is, BMI. According to Carayannis et al. (2014), BMI can lead to organisational sustainability, resilience, and excellence. However, the literature on BMI is said to be at an infancy stage requiring identification and assessment of its antecedents (Foss & Saebi, 2017; Lambert & Montemari, 2017; Spieth et al., 2014).

Existing literature asserts a distinction between entrepreneurial orientation and BMI. While entrepreneurial orientation focuses on product and process innovation (Veidal & Korneliussen, 2013), BMI addresses how a firm creates, delivers, and appropriates value to the focal firm and its channel partners, including its customers (Bouwman et al, 2016; Snihur & Wiklund, 2019). According to Bucherer et al., (2012), BMI is a distinct form of innovation possessing a higher potential for value creation and capture as it is difficult to be imitated and implemented by competitors, unlike product and process innovations (Zott & Amit, 2012). While empirical studies have identified entrepreneurial orientation as an antecedent of BMI, these studies are mostly exploratory (Tian et al, 2019) and undeniably scarce (Asemokha et al., 2019). The purpose of this study, therefore, was to contribute to a better comprehension of entrepreneurial orientation as an antecedent of BMI by investigating the impact of entrepreneurial orientation on BMI in medium enterprises in Kenya.

Research Problem

The current study addresses several gaps identified in previous studies. First, although entrepreneurial orientation as a construct has been extensively investigated (Wales, 2016), the focus has mainly been in the context of developed economies such as the United States of America (USA) (Gupta & Dutta, 2018). Likewise, BMI studies have mainly been done in Europe, the USA, and Asia, with minimal effort to understand BMI practices in Africa. Situating this study in a developing country like Kenya was meant to bridge the identified contextual gap. Comprehending the nature and impact of entrepreneurial orientation and BMI in a context different from the developed countries may help managers develop and adopt strategies and operations more suitable to local conditions, thus evading possible adverse outcomes (Knight, 1997). Secondly, this study responds to scholars who have called for

the identification and assessment of immediate outcomes of entrepreneurial orientation other than enterprise performance (Covin & Wales, 2019), as well as antecedents and consequences of BMI (Foss & Saebi, 2017). Prior studies assessing the outcome of entrepreneurial orientation have largely been focusing on enterprise performance as a direct outcome with those addressing other immediate outcomes of entrepreneurial orientation leaning towards learning orientation and innovativeness as mediator variables (Soares & Perin, 2019). Thus, studies linking BMI to entrepreneurial orientation are scarce (Asemokha et al., 2019), especially, in the African context. Thirdly, studies assessing BMI are predominantly case-based or conceptual (Böttcher & Weking, 2020), leading to a lack of conceptual clarity and generalisability (Foss & Saebi, 2017). Thus, a survey based on empirical data is timely. Additionally, this study provided an opportunity to assess Clauss' BMI measurement scales in a diverse industry setup as recommended by Clauss (2017).

Literature Review

Various theoretical perspectives such as the resource-based theory (Barney, 1991), Schumpeter's theory of entrepreneurship (Schumpeter, 1912, 1934, 1942), open innovation theory (Chesbrough, 2003), and the general systems theory (Bertalanffy, 1972) have been applied in business research assessing the profitability potential and innovation approaches in BMI and entrepreneurial orientation studies (Afuah, 2014; Wales et al., 2021). The resource-based theory has been applied in studies to help explain the role of resources in enhancing enterprise performance while Schumpeter's theory has emphasised the essentiality of incessant innovation in the attainment of competitiveness and superior performance. This study applied the dynamic capability view (Teece, 2007) to help explain entrepreneurial orientation as an internal antecedent of BMI. According to Teece (2007), sensing, shaping, and seizing are dynamic capabilities of a firm. Because a business model is a reflection of management's perception of customers' needs and how to satiate those needs and get paid (Teece, 2010), sensing (proactiveness) capability enables the discovery of opportunities or unmet customers' needs, which is a ground for innovating a business model of a firm. Shaping (innovativeness) capability is critical for the design of a new business model while seizing (risk taking) capability is associated with taking bold steps to exploit the opportunities. Thus, dynamic capabilities theory is relevant in this study advancing entrepreneurial orientation as an antecedent of BMI in the context of medium enterprises in Kenya.

Advancing the argument that entrepreneurial orientation enhances BMI by creating endogenous shifts in the prevailing conditions within an enterprise, Kocoglu et al. (2015) assessed entrepreneurial orientation and

organizational emotional capacity as antecedents of BMI in a cross-sectional survey targeting 500 Turkish firms. The survey revealed that entrepreneurial orientation positively influenced firms to innovate their business models. In a case study of a Chinese high-end equipment manufacturer, Tian et al. (2019) identified entrepreneurial orientation as an internal antecedent of BMI. They argued that entrepreneurial orientation influences firms to perceive impending market trends (proactiveness), recognise and address customer needs (innovativeness), and act boldly to execute new business models, suggesting that entrepreneurial orientation is an antecedent of BMI. Similarly, Bouncken et al. (2016) argued in relation to the entrepreneurial orientation that innovativeness and risk taking behaviour and attitude cause the innovation of business models by influencing the generation of new ideas in service firms. Mütterlein and Kunz (2017) too, identified entrepreneurial orientation as an antecedent of BMI in a study of 50 media companies in German.

While acknowledging the scarcity of research linking BMI to entrepreneurial orientation, Asemokha et al. (2019) study of Finish small and medium enterprises operating in the international market suggested that entrepreneurial orientation could be an antecedent of BMI. Ferreras-Mendez et al. (2021) analysed the link between entrepreneurial orientation and new product development while considering BMI as a mediating variable, thus the effect of entrepreneurial orientation on BMI. The results of the analysis based on a survey of 400 small and medium enterprises in Spain established that entrepreneurial orientation had a positive effect on BMI as well as new product development.

Based on the foregoing literature review, the conceptual model in Figure 1 below was adopted to guide this study. Entrepreneurial orientation and BMI were conceptualised as antecedent and outcome variables, respectively, and the following null hypothesis was formulated for testing: H_0: entrepreneurial orientation does not influence BMI in medium enterprises in Kenya.
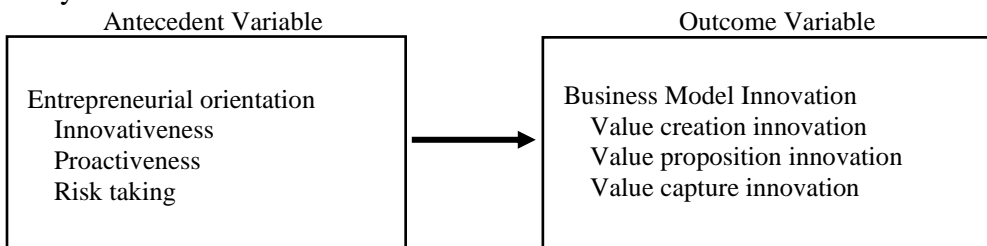
Figure 1. The Effect of Entrepreneurial Orientation on Business Model Innovation

Methods

Research Design

The study employed a positivist philosophy, which according to Bryman (2008) often leans towards a deductive approach where hypotheses are developed on the basis of existing knowledge and tested to generate new knowledge. This study reviewed extant literature, enabling the formulation of the hypothesis about the study constructs. The study was descriptive as it sought to provide a description of the characteristics of the study population, determine the portion of the population possessing those characteristics as well as establish the association between the study variables (Easterby-Smith et al., 2008). A survey strategy of the cross-sectional timeframe was adopted, enabling the attainment of the required quantitative data in a relatively short time (Saunders et al., 2012).

Target Population and Sampling Strategy

The target population of the study was medium enterprises in Kenya. The Klynveld Peat Marwick Goerdeler (KPMG) East Africa and Nation Media Group (NMG) Top 100 companies provided the sampling frame (http://eastafricatop100.com). They are described as companies that have outperformed their peers in terms of profitability, revenue growth, and geographical expansion as well as contributing to employment opportunities, and have attained annual gross sales of Kenya shillings fifty million to one billion. Regulated companies such as banks, insurance, companies listed on the stock market, law, and accountancy firms are excluded from participating in the survey. According to the KPMG and NMG Top100 companies' website, 517 companies have been ranked among the Top 100 companies since 2008 when the survey was first initiated up to 2019. The Top 100 companies were purposively chosen because they have demonstrated excellence; beating their peers in annual revenue growth, profitability, geographical expansion, liquidity stability, and contribution to employment opportunities, suggesting that they have embraced best management practices. The Top 100 companies have been used in previous studies focusing on SMEs in Kenya (Bor, 2018; Ndegwa et al., 2015; Irungu & Marwa, 2015; Ng'aru, Mukulu, & Sakwa, 2018). The sample size was determined based on Cochran's (1977) sample size determination formula arriving at 221 medium enterprises. A stratified random sampling technique (Sharma, 2017) was applied in determining the ideal sample size across the industries.

Industry classification was based on the International Standard Industrial Classification of All Economic Activities (ISIC) industry categorisation (United Nations, 2008). Thus, the survey was carried out among companies from diverse industries including, accommodation and food service activities (10), administrative support (5), agriculture, forestry and

fishing (5), construction (37), education (5), electricity, gas, steam, and air conditioning services (13), finance and insurance activities (24), human health and social work activities (22), information and communication (27), manufacturing (96), professional, scientific and technical activities (75), real estate (8), transportation and storage, including tour activities (61), water supply, sewerage, waste management and remediation activities (9), and wholesale and retail trade, repair of motor vehicles and motorcycles (120).

Data Collection

The study was based on primary data obtained by way of a self-administered questionnaire. A combination of drop and pick and email strategy which has been used in previous studies to enhance response rate (Ndegwa et al., 2015) was employed to deliver and collect the questionnaires from the respondents. One questionnaire targeting the chief executive officer or a senior manager was delivered to each of the sampled companies. Thus, the key respondent approach was adopted (Lechner et al., 2006; Hughes et al., 2015). This approach was deemed appropriate because the chief executive officer and other senior managers were considered highly knowledgeable about their companies' business strategies, making their responses more credible and reliable (Hussain et al., 2017; Snihur & Wiklund, 2019; Thuo et al., 2011). Secondary data was considered inaccessible because the participating enterprises were not listed companies.

Measurement of Variables

The study adapted validated instruments from prior studies. Entrepreneurial orientation was measured based on Covin and Slevin's (1989) nine items assessing proactiveness (three items), risk taking (three items), and innovativeness (three items) as composite indicators while BMI adapted Clauss' (2017) measurement scale comprising three dimensions, that is, value creation innovation (thirteen items), value proportion innovation (twelve items) and value capture innovation (eight items). Thus, thirty-three items in all. A five-point Likert scale was used where respondents were required to indicate the extent to which they agreed with a given statement on a scale of 1 to 5 representing "Strongly Disagree" to "Strongly Agree", respectively.

Missing Values, Outliers, and Common Method Variance

A preliminary analysis revealed that there were no cases of missing values. Further, an examination of the existence of outliers using Box plots (Walfish, 2006) and Cook's distance confirmed that there were no outliers (Hair et al, 2010). An assessment of common method variance based on Harman's Single-Factor Test (HSFT) was done revealing total variance explained by a single factor of 34.28 percent which was within the

recommended threshold while nine items attained eigenvalues greater than one (1), meaning that common method variance was not pervasive (Chang et al., 2010).

Reliability and Validity of the Measures

Although the study adapted validated measurement scales, reliability and validity tests were done to assure that the instruments can yield the same results and measure what was purposed to be measured (Cooper and Schindler, 2014) in the context of medium enterprises in Kenya. Cronbach's alpha coefficients and composite reliability were computed to determine instrument reliability while the average variance extracted and the Fornell-Larcker criterion which weighs the square root of the average variance extracted values against the latent variable correlations were used to determine convergent and discriminant validity, respectively (Hair et al., 2021). Principal component analysis with the oblique rotation method (PROMAX) was performed to determine sampling adequacy and factor loadings about entrepreneurial orientation and BMI. The analysis confirmed sampling adequacy as attested by the Kaiser-Meyer-Olkin measure of sampling adequacy value of 0.896 and 0.747 for BMI and entrepreneurial orientation, respectively, and a significant Bartlett's test of Sphericity Chi-square for both constructs as shown in Table 1 below. According to Williams et al. (2012), a Kaiser-Meyer-Olkin value of 0.5 and above is a testament to sampling adequacy.

Table 1.Kaiser-Meyer-Olkin and Bartlett's Test Depicting Sampling Adequacy

Variable		EO	BMI
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.747	0.896
Bartlett's Test of Sphericity	Approx. Chi-Square	498.463	2740.386
	df	36	528
	Sig.	0.000	0.000

To determine the factor loadings, three factors for entrepreneurial orientation and ten factors for BMI were requested based on existing literature. The results of the principal component analysis confirmed three factors for entrepreneurial orientation (Covin & Slevin, 1989) and ten factors for BMI (Clauss, 2017, Clauss et al., 2019). Based on the confirmed factor loadings, confirmatory factor analysis was performed using AMOS version 26 with the Maximum likelihood estimation method to establish the reliability and validity of the measurement scales. As shown in Table 2 below, the results indicated that all items in relation to entrepreneurial orientation achieved strong factor loadings above 0.55. The computed average variance extracted values were 0.61, 0.59, and 0.58 for proactiveness, risk-taking, and innovativeness, respectively, while composite reliability values were 0.82, 081, and 0.81, in

the same order. As presented in Table 3 below, the factor loadings in relation to BMI were all above 0.50, and the calculated average variance extracted as well as composite reliability values for all items were above 0.50 and 60, respectively. The square root of each construct's average variance extracted was higher than the corresponding highest correlation with any other construct suggesting discriminant validity (Fornell & Larcker, 1981).

Cronbach's alpha attained coefficient values of 0.77 and 0.95 for entrepreneurial orientation and BMI, respectively as shown in Table 4 below. The literature recommends cut-off values starting from 0.70, 0.50, 0.50, and 0.60 for Cronbach's alpha coefficients, factor loadings, average variance extracted, and composite reliability, in that order, for acceptable measures (Bonett & Wright, 2015; Hair et al., 2021; Nunnally & Bernstein, 1994). Accordingly, the reliability and validity of the instruments were established, thus permitting progression to the hypotheses testing stage.

Table 2. Factor Loadings, Average Variance Extracted, and Composite Reliability of Entrepreneurial Orientation Items

Item code	Item description	Factor loading	AVE/CR
	Proactiveness		
PRO_ii	Our firm has always been on the lookout to seize initiatives whenever possible in our target market operations.	0.77	AVE = .61 CR = .82
PRO_i	Our firm has always sought to exploit anticipated changes in future market conditions.	0.65	
PRO_iii	Our firm has always acted opportunistically to shape the business environment in which it operates.	0.91	
	Risk Taking		
RIS_iii	Our firm's business strategy has been characterized by a tendency to commit significant resources to projects with uncertain outcomes.	0.80	AVE = .59 CR = .81
RIS_ii	Our firm has shown a great deal of tolerance for venturing into the unknown	0.82	
RIS_i	Our firm has in general tended to invest in high-risk projects aiming at getting high returns.	0.68	
	Innovativeness		
INN_ii	Our firm has been at the forefront of technological leadership through new product/service development.	0.73	AVE = .58 CR = .81
INN_iii	Our firm has constantly experimented with unique new processes and methods of production to seek new and unique solutions.	0.79	
INN_i	Our firm has continuously promoted new innovative products/services to meet our customers' needs.	0.77	

Table 3. Factor Loadings, Average Variance Extracted, and Composite Reliability of Business Model Innovation Items

Item code	Item description	Factor Loading	AVE/CR
	New customer relationships		
VPR_xii	We have taken many actions in order to strengthen customer relationships.	0.83	AVE = .67 CR = .86
VPR_xi	We have emphasized innovative or modern actions to increase customer retention.	0.84	
VPR_x	We have tried to increase customer retention through new service offerings	0.78	
	New channels		
VPR_ix	We have consistently changed our portfolio of distribution channels	0.77	AVE = .72 CR = .88
VPR_vii	We have regularly utilized new distribution channels for our products and services	0.83	
VPR_viii	Constant changes in our distribution channels have led to improved efficiency of channel functions	0.93	
	New capabilities		
VCR_i	Our employees have constantly received training in order to develop new competencies	0.8	AVE = .62 CR = .83
VCR_ii	0ur employees have been up-to-date in knowledge and capabilities.	0.82	
VCR_iii	We have constantly reflected on which new competencies need to be established in order to adapt to changing market requirements.	0.73	
	New offerings/New customers and markets		
VPR_iv	We have regularly taken opportunities in new or growing markets.	0.75	AVE = .52 CR = .88
VPR_i	We have regularly addressed new, unmet customer needs.	0.77	
VPR_ii	Our products and services have been very innovative.	0.86	
VPR_v	We have regularly addressed new, unserved market segments.	0.69	
VPR_vi	We have constantly sought new customer segments and markets for our products and services.	0.65	
VPR_iii	We have solved customer needs by offering new and unique products and services.	0.75	
VCA_i	We have developed new revenue opportunities (for example, additional sales, and cross-selling).	0.55	
	New cost structure		

VCA_vi	We have actively sought opportunities to reduce production and service costs.	0.64	AVE = .52 CR = .76
VCA_vii	We have constantly examined our production and service costs and as necessary, amended them according to market prices.	0.79	
VCA_v	We have regularly reflected on our pricing strategy.	0.72	
New partnerships			
VCR_vii	We have constantly been searching for new collaboration partners.	0.8	AVE .68 CR = .82
VCR_viii	We have regularly utilized opportunities that arise from the integration of new partners into our processes	0.91	
VCR_x	New collaboration partners have been regularly helping us to further develop our business model.	0.76	
New processes			
VCR_xi	We have been able to significantly improve our internal processes.	0.72	AVE = .61 CR = .82
VCR_xii	We have been utilizing innovative procedures and processes during the manufacturing of our products and delivery of services.	0.77	
VCR_xiii	Our existing processes have been assessed regularly and significantly changed as needed.	0.84	
New revenue models			
VCA_iii	We have complemented or replaced one-time transaction revenues with long-term recurring revenue models (for example, Leasing).	0.66	AVE = .43 CR = .69
VCA_iv	We have not relied on the durability of our existing revenue sources.	0.51	
VCA_ii	We have been increasingly offering integrated services (for example, maintenance contracts, and after-sale service) in order to realize long-term financial returns.	0.78	
New technology/equipment			
VCR_v	Our technical equipment has been very innovative.	0.84	AVE = .61 CR = .82
VCR_vi	We have regularly utilized new technical opportunities to extend our product and service portfolio.	0.74	
VCR_iv	We have kept the technical resources of our company up-to-date.	0.76	
New cost structure			
VCR_ix	We have regularly been evaluating the potential benefits of outsourcing.	0.55	AVE = .47 CR = .63

| VCA_viii | We have regularly utilized opportunities that arise through price differentiation. | 0.8 | |

Table 4. Cronbach's Alpha Coefficients Depicting Reliability of the Measurement Instruments

Variable	Cronbach's Alpha	Number of Items
Entrepreneurial Orientation	0.773	9
Business Model Innovation	0.946	33

Results

Descriptive and Correlation Analysis

Descriptive statistics were applied to ascertain the characteristics of the respondents and the firms they represented. Out of 221 questionnaires distributed, 141 were returned, attaining a response rate of 64 percent. However, seven questionnaires were eliminated because they were not filled by the target respondents leaving 134 valid responses, 60.6 percent of the sampled enterprises. The response rate was judged appropriate for regression analysis based on Hair et al.'s (2010) recommendation that a minimum of one hundred cases is acceptable. The study revealed that 59 percent of the firms were family-owned and 41 percent were non-family-owned. 72.4 percent of the firms had between 1-100 employees, 14.9 percent had between 101-200 employees, and 13 percent had over 300 employees while 4 percent of the firms had employees ranging from 201-300. According to Baker and Sinkula (2009), a firm's number of employees for the purpose of determining firm size depends on the industry in which it functions.

The respondents were 69.4 percent male and 30.6 percent female. They were senior managers occupying varying positions, such as the chief executive officer (29.9 percent), finance manager (16.4 percent), human resource manager (26.9 percent), marketing manager (14.2 percent), operations manager (5.2 percent), business development manager (4.5 percent) and procurement manager (3.0 percent). In terms of experience, 47.8 percent indicated that they had worked in their current industry for over 10 years, 23.1 percent between 5-10 years, and 29.1 percent had below 5 years of experience in their current industry. Regarding the level of education, 53.0 percent reported that they had attained an undergraduate degree, 25.4 percent had a master's degree, and 16.4 percent had obtained a diploma certificate. Those who reported having attained PhD were 2.2 percent, while those who had achieved high school and trade test certificates were 1.5 percent, respectively.

Mean, Standard Deviation, Coefficient of Variation, and Pearson Correlation

Table 5 below provides descriptive statistics regarding mean, standard deviations, coefficient of variation, and correlation coefficients among the study variables. Based on the computed coefficient of variation, the spread from the mean for all the variables was low, meaning that there was less variation in the received responses. Pearson's correlation coefficient which measures the degree and direction of association between study variables (Onwuegbuzie et al., 2007; Taylor, 1990) as shown in Table 5 below indicated the association between BMI and entrepreneurial orientation was positive and moderate (Cohen & Holliday, 1982, Taylor, 1990), thus, providing initial expected results of the hypothesis testing.

Table 5. Mean, Standard Deviation, Coefficient of Variation, and Pearson Correlation

Construct	Sample size	Mean	Standard deviation	Coefficient of Variation (Percent)	Pearson Correlation	
					EO	BMI
EO	134	3.82	0.57	14.92	1	
BMI	134	3.97	0.51	12.85	.502**	1
**. Correlation is significant at the 0.01 level (2-tailed).						

Hypothesis Testing

The study's objective was to ascertain the influence of entrepreneurial orientation on BMI, thus, ordinary least square regression analysis was performed to test the hypothesis that entrepreneurial orientation does not influence BMI among medium enterprises in Kenya. The estimated simple linear regression equation was: $BMI = \beta_o + \beta_1 EO + \varepsilon$, where EO is entrepreneurial orientation, β_1 is the regression coefficient for EO, β_0 is the regression constant while ε is the error term. As revealed in Table 6 below, the influence of entrepreneurial orientation on BMI was weak and positive as evidenced by the coefficient of determination ($R^2 = 0.252$). The overall model was significant since the P-value was less than 0.05 level of significance. Thus, the null hypothesis that entrepreneurial orientation does not influence BMI among medium enterprises in Kenya was not supported by the analysis and therefore was rejected. On individual significance, both the constant and entrepreneurial orientation were significant. The consequent estimation equation was thus, $BMI = 2.266 + 0.445EO$, meaning that a unit change in entrepreneurial orientation will on average lead to 0.445 units increase in BMI.

Table 6. Model Summary, Analysis of Variance and Coefficients of
Entrepreneurial Orientation on Business Model Innovation

Model Summary (Goodness-of-fit)				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.502[a]	0.252	0.246	0.43975
a. Predictors: (Constant), EO				

Analysis of Variance (Overall Significance)						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.596	1	8.596	44.452	.000[b]
	Residual	25.526	132	0.193		
	Total	34.122	133			
a. Dependent Variable: BMI, b. Predictors: (Constant), EO						

Coefficients (Individual Significance)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.266	0.258		8.790	0.000
	EO	0.445	0.067	0.502	6.667	0.000
a. Dependent Variable: BMI						

Discussion

This study investigated the impact of entrepreneurial orientation on BMI in medium enterprises in Kenya. This was in response to calls from scholars requiring the identification of the immediate outcome of entrepreneurial orientation other than firm performance (Covin & Wales, 2019; Markin et al., 2018) since most studies had concentrated on the direct entrepreneurial orientation-performance link attaining mixed results (Soares & Perin, 2019. Additionally, other scholars contended that BMI literature was at an embryonic stage requiring the identification of its antecedents and outcomes (Foss & Saebi, 2017). This study established that entrepreneurial orientation positively influenced BMI in medium enterprises in Kenya, thus, suggesting that entrepreneurial orientation is an antecedent of BMI in medium enterprises in Kenya. However, as indicated by the coefficient of determination, the statistical power was weak suggesting that other variables not incorporated in the model contributed to the variance in BMI. The results suggested that entrepreneurial orientation accounted for about 25.2 percent (R^2

= 0.252) of the variance in BMI while 74.8 percent was attributable to other variables not included in the model. The findings are consistent with other studies (Asemokha et al., 2019; Bouncken et al., 2016; Ferreras-Mendez et al., 2021; Kocoglu et al., 2015; Kunz, 2017; Mütterlein & Kunz, 2017) which established that entrepreneurial orientation had a positive influence on BMI.

The study contributes to the literature by demonstrating the importance of dynamic capability theory in explaining the effect of entrepreneurial orientation on BMI. Empirically, by establishing that entrepreneurial orientation had a positive influence on BMI, the study partially addressed the twin concerns raised by scholars calling for the identification and assessment of antecedents of BMI as well as the immediate outcome of entrepreneurial orientation other than enterprise performance. This is a novel frontier as there is no other study in the context of medium enterprises in Kenya, which has explored entrepreneurial orientation as an antecedent of BMI. Additionally, the study addressed a call to assess the BMI measurement scale as developed by Clauss (2017) in a heterogenous industry environment beyond the electronic sector. Regarding the implication to industry practitioners, the study highlights the importance of entrepreneurial orientation on BMI, hence, requiring managers to embrace entrepreneurial behaviour and attitude to enable BMI in their enterprises. The study suggests a need for the board of directors as policymakers to create an environment that embraces entrepreneurial orientation as well as provide resources to enable managers to embrace innovativeness, proactiveness, and risk taking behaviour and attitude in their decision making and operations. Additionally, there is a need for the government of Kenya to formulate policies that are supportive of entrepreneurial orientation behaviour and attitude in medium enterprises in Kenya.

This study was not without limitations, which on the flip side presents opportunities for future research. First, the study relied on cross-sectional survey data. Accordingly, it is recommended that future studies consider exploring the relationship among the study variables from a longitudinal perspective. Second, data in the current study was limited to the KPMG East Africa and NMG annual Top 100 medium enterprises in Kenya meaning that there are other medium enterprises left out in the study. Thus, there is a need to extend the sampling frame beyond the surveyed enterprises to incorporate other qualifying entities. Third, the study relied on self-reported data from single respondents, thus, it is recommended to conduct a study that complements self-reported data with secondary as well as using different respondents for predictor and outcome variables. Finally, the study did not explore other potential strategic orientations such as market orientation and learning orientation that could influence BMI and the potential outcome of BMI and entrepreneurial orientation such as enterprise performance in the

surveyed medium enterprises. Since the ultimate goal of a business is performance, there is a need to extend the examined model to incorporate enterprise performance as the final outcome, thus assessing the indirect effect of entrepreneurial orientation on performance through BMI as mediating factor. Despite the limitations, the study employed a robust research design to mitigate the shortcomings. Thus, the study's contribution to the theory and knowledge development in entrepreneurship literature, practice, and policy formulation is immense.

Conclusion and Recommendation

The aim of this study was to determine the impact of entrepreneurial orientation on BMI in medium enterprises in Kenya. Based on the findings, the study concluded that entrepreneurial orientation had a positive significant impact on BMI in medium enterprises in Kenya. Thus, to enhance BMI in their enterprises, managers of medium enterprises in Kenya should embrace entrepreneurial behaviour and attitude among other strategies. Accordingly, the study recommends that managers of medium enterprises in Kenya should be entrepreneurially orientated to enhance BMI in their firms. The study further recommends that the board of directors as policymakers create an environment that embraces entrepreneurial orientation as well as provide resources to enable managers to embrace innovativeness, proactiveness, and risk taking behaviour and attitude in order to enhance BMI in medium enterprises in Kenya. The government of Kenya should as well formulate policies that encourage an entrepreneurial culture of innovativeness, proactiveness, and risk taking so as to promote BMI in medium enterprises in Kenya. Finally, the study recommends further studies to address the study's limitations.

Conflicts of Interests

We confirm that there is no conflict of interest to declare as far as this paper is concerned.

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