

SENSE-MAKING, ENTREPRENEURIAL ORIENTATION AND THEIR INFLUENCE ON FIRM PERFORMANCE IN KENYA

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ABSTRACT: *Manufacturing firms constitute an integral part of the economic rubric of developing countries. In Kenya, they contribute 14% of gross domestic product, and train and employ 30% of the workforce. However, they exhibit low organization capacity, and struggle to survive as competitive enterprises. The purpose of this study was to establish how entrepreneurial orientation (EO) influences the relationship between sense-making and firm performance in Kenya. Anchored on the resource-based view and strategic entrepreneurship concept, the study used a self-administered questionnaire to survey owners/managers of 83 small and medium enterprise (SME) food-manufacturing firms registered by the Kenya Association of Manufacturers. Data were analyzed using structural equation modeling, employing Statistical Software for Social Sciences (SPSS) Version 20 and SmartPLS 3. The study found that EO fully mediates the relationship between sense-making and firm performance. This study concludes that EO is a critical strategy that firms should exploit to maximize their performance. The study recommends that, manufacturing SMEs should encourage employee entrepreneurial behaviours, and the government should support policies that promote entrepreneurial business management capabilities in manufacturing firms.*

KEYWORDS: sense-making, uncertainty, manufacturing firms, market diversity, technology variety, new products portfolio

INTRODUCTION

The manufacturing sector is a kingpin in the economic development of nations. It advances economic growth, innovation, social comfort, standards of life, and prosperity. Manufacturing plays a central role in engaging and training labour force for value-added

production functions, facilitates development of physical infrastructure, develops industries, attracts foreign exchange earnings, and stimulates investment in a range of other support industries (Rotich, Wanjau, & Namusonge, 2015; Naudé & Szirmai, 2012). It accounts for most of the global economic development. Over 70% of the income variations of 128 countries, “including China, India, South Korea, Mexico and Brazil” are explained by differences in manufactured product export data alone (Schmith, 2012:9).

The manufacturing sector is thus important to enable Kenya’s realization of Vision 2030, the country’s economic blueprint (Republic of Kenya, 2017). However, Kenya’s manufacturing sector has for a long time experienced poor total factor productivity growth rates. It is very small compared to those in industrialized nations, and its overall contribution to GDP has remained at a low average of 10% for more than ten years (Republic of Kenya, 2017). Held up against comparable global competitors, Kenya’s manufacturing growth and competitiveness is dismal. For example, its per capita exports are less than one-tenth those of Nicaragua and Cambodia, one-twentieth of Vietnam’s, and one-thirtieth of South Africa’s (Farole & Mukim, 2013).

Manufacturing firms in Kenya face formidable challenges to establish sustainable niches in the domestic and global markets. Several reasons explain these challenges. One reason is the evolving nature of competition for the market by all manufacturers in the globalized manufacturing ecosystem, coupled with the constantly changing nature of consumer tastes. Another is the continuous obsolescence of familiar production technologies, and their repeatedly successive replacement with new technologies. There are also environmental concerns that easily attract legal backing related to the toxic effects of by-products of manufacturing processes. These and other challenges coming from multiple directions can produce overwhelming confusion, resulting in an inability to make correct decisions regarding the manufacturing function.

Developing an effective manufacturing capacity requires strategies on two fronts – one in the general economic environment, and the other within an individual firm’s management structures. For the front located inside the firm, firm capacity development is a management mandate. Managers must take charge of the internal firm-specific dynamics, and turn around the trend of Kenyan manufacturing. Given that modern manufacturing is a globalized function, and that trends in global competition have become highly uncertain and unpredictable, managers need the abilities to make sense of the maze of challenges in the manufacturing ecosystem. They also need the competencies to use entrepreneurial behaviours to effectively manage the competitive dynamics.

This study had a two-fold purpose. The first was to determine the influence of sense-making on performance of manufacturing firms in Kenya. The second was to assess whether entrepreneurial orientation (EO) mediates the relationship between sense-making and performance of manufacturing firms in Kenya. The study was anchored on epistemological philosophy, and leaned towards the positivism paradigm, and relied on the resource-based view (RBV) of the firm and the strategic entrepreneurship concept.

LITERATURE REVIEW

The centrality of manufacturing for industrialization and economic development has been amply demonstrated (Were, 2016; Schmith, 2012; Naudé & Szirmai, 2012; Soderbom & Teal, 2001). Farole and Mukim (2013) showed that manufacturing matters for Kenya's economic development and industrialization. Were (2016) observed that Kenya's manufacturing has been growing at a slower rate than the economy, a situation corroborated by Rioba (2014) in his cross-sectional study spanning over four decades on Kenya's manufacturing industry and economic growth. Rioba (2013) found that "structural transformation has occurred in reverse with non-manufacturing output constituting the major component of GDP as opposed to manufacturing output" (p. viii).

The manufacturing ecosystem is a global competitive field, pitting start-up manufacturers against seasoned, well established multi-national manufacturing companies (Swezey & McConaghy, 2011). In addition, the coming on of political liberalization in many controlled economies in the recent past has resulted in dissolution of protectionist state policies which secluded market segments, and allocated them to manufacturers localized within specific state boundaries. Tentative affirmative action initiatives, such as AGOA (African Growth Opportunity Act) and East African Community-European Union Economic Partnership Agreement (EAC-EU EPA) are not permanent interventions, but temporary preferential trade agreements meant to accelerate the trading presence of African manufacturers in the global market (KAM, 2015; Naudé & Szirmai, 2012; Schmith, 2012).

The resultant difficulties brought on by globalized competitive environment requires an ability of management to make sense of the confounding situations. Sense-making refers to an iterative structuring of the unknown, to be able to act in it (Ancona, 2012). It turns complex circumstances into a situation that is explicitly comprehensible in words, and that serves as a springboard into action (Weick *et al*, 2005). Thus, sense-making is an agile cognitive antecedent which proactively enables management to act on an uncertain situation, on the basis of an estimate of the uncertainty, and then continuously make corrections to the estimate as informed by the unfolding outcome of the actions.

Though quite scarce, some studies have explored the link between sense-making and firm performance. Firm performance is the extent to which a firm is able to meet its goals and objectives. In a study investigating strategic sense-making processes on organizational performance, Thomas, Clark, & Gioia (1993) showed that a positive link exists between sense-making and firm performance. Wei and Wang (2011) found that sense-making leads to superior firm performance through strategic resources translated into a competitive marketing advantage. Hall, Sarkani and Mazzuchi (2011) found that sense-making and performance of information security firms are related through information security strategy.

Therefore, sense-making helps to break up the paralysis that uncertainty injects, and facilitates rational decisions, which can enhance greater clarity regarding accumulation of

firm resources for building competitive advantage (Ray, Barney, & Muhanna, 2004). For example, sense-making facilitates the acquisition of information that leads to the portfolio of new products that a firm can manufacture. It also enables management to anticipate technological changes, and positions the firm strategically to exploit the changes before they actually happen. It also leads to good estimations of the variety of technological resources that a manufacturing firm should invest in, and facilitates the matching of resource investments with the diversity of the market segment that the firm targets.

Sense-making enables management to get direction regarding resource reallocation to adjust their focus between local and foreign markets. Therefore, through sense-making, management is able to entrench their firms in the competitive ecosystem, while at the same time learning from it (Ancona, 2012). Thus sense-making facilitates greater control of firm operations, and increases the chances of improving firm performance through leveraging modern production techniques, to offer a range of products in tandem with shifting market preferences.

Manufacturing firms also require a good stock of EO, which is reflected through the number of employees who are entrepreneurially minded, and the frequency and pervasiveness of entrepreneurial behaviours in the firm. Entrepreneurial orientation is a sustained preoccupation with entrepreneurial behaviours, which enable an individual or firm to angle their way into an entrepreneurship habitat, and create, sustain and grow a competitive advantage in that habitat. Thus, EO is not a business phase-dependent practice, but a habit that is important throughout all stages of a manufacturing firm's life cycle.

The common dimensions of EO, as posited by Miller (1983) and corroborated by Lumpkin and Dess (1996) are innovativeness, proactiveness and risk taking. However, Lumpkin and Dess (1996) added autonomy and competitive aggressiveness. These conceptualizations present EO as an overriding and pervasive practice that imparts economic vibrancy to an enterprise. This study adopted Miller's (1983) three dimensions of EO – innovativeness, risk taking and proactiveness.

Several studies have shown that there is a positive relationship between EO and firm performance (Mburia, Wanjau and Kinyanjui, 2016; Zainol & Ayadurai, 2011; Beliaeva, 2014). Mburia *et al.* (2016) found a positive relationship between EO and performance of food manufacturing firms in Kenya. Zainol and Ayadurai found that EO is positively linked to performance of Malay firms.

Entrepreneurial orientation therefore seems to be an important strategy for vision-oriented manufacturing firms to project them onto the high performance pedestal. Entrepreneurial orientation can enable Kenyan manufacturing firms to neutralize competition, safeguard their regional market turf and forage into the international globalized market arena (Farole & Mukim, 2013).

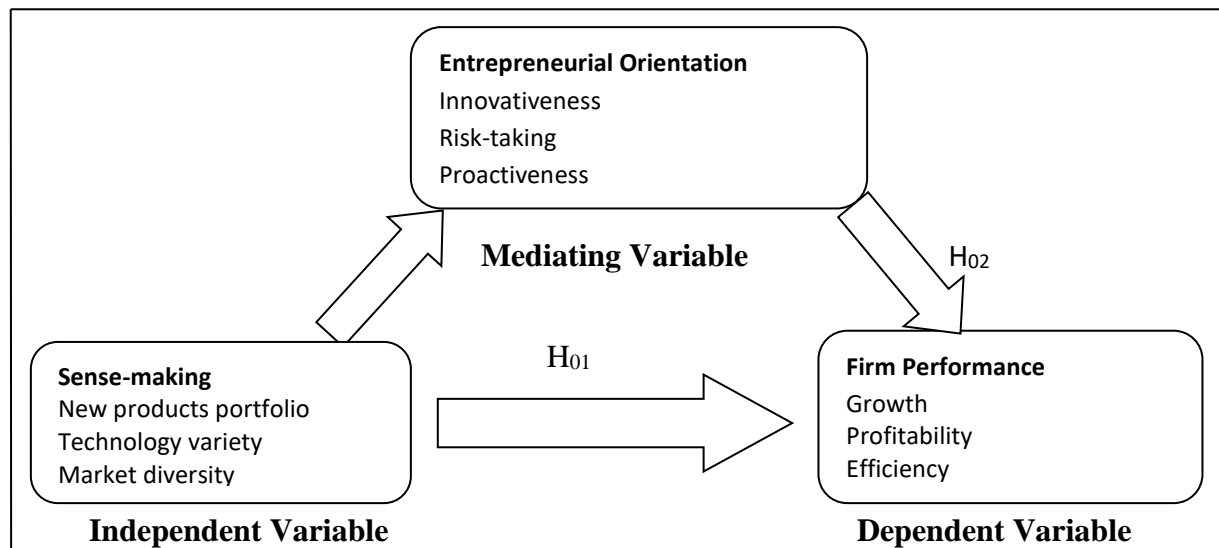
Miller & Breton-Miller (2017) posit that EO is located in human resources. This implies that manufacturing firm management should exercise due diligence during recruitment, so that employees who have an entrepreneurial aptitude are engaged. Moreover, manufacturing firms should formulate policies that enable them to attract and retain

entrepreneurially minded employees throughout the firm. Additionally, management itself should act entrepreneurially, by enabling an entrepreneurial culture to develop and entrench in the firm. Soininen, Puumalainen, Sjögrén, Syrjä, & Durst, (2013) observed that innovative firms engage in and support new ideas, which is symptomatic of EO.

Literature suggests that the influence of different organizational phenomena on firm performance is strengthened when EO is introduced into the relationship (Beliaeva, 2014; Korry, Toena, Hadiwidjojo, & Noermijati, 2013). In particular, EO has been observed to be a mediator of the relationship between organizational culture and government policy on one hand, and business performance on the other (Korry *et al.* 2013). Vasconcelos, Silveira and Bizarrias (2016) found that EO mediated the relationship between organizational learning and organizational performance in small Brazilian enterprises. Thus, EO may also mediate the relationship between sense-making and performance of manufacturing firms in Kenya.

The RBV of the firm and strategic entrepreneurship concept are important theoretical considerations in studying the relationship between the three constructs of sense-making, EO and firm performance. Manufacturing firms require resources to set up and operate, and these resources must be combined in some specific configurations, in order to make products possessing the utility demanded by the market. Therefore, the resource build-up must be aligned with the firm's corporate strategy, with a view to meeting the manufacturing mandate as espoused in the firm's vision and mission. Steen (2005) showed that a manager who is strongly convinced about his firm's vision and mission will look for employees who have the same attitude. Thus, he will build up a team that can resonate with the organization's corporate logic.

Figure 1 shows the conceptual framework adopted for the study.



Source: Adapted from Albert & Hayes (2003) in Hall et al, (2011)

Fig. 1: Conceptual Framework

METHODOLOGY

The study used a cross-sectional survey research design employing both qualitative and quantitative methods, in order to enhance the quality of results (Cresswell & Clark, 2011). The study population was a census of the 83 SME food manufacturers in Kenya registered by the Kenya Association of Manufacturers (KAM). The food manufacturing subsector was chosen because it is the most prolific sub-sector in the Kenyan manufacturing ecosystem (Bigsten, Kimuyu, & Söderbom, 2010), and accounts for 22% of KAM membership (KAM, 2015). The sampling frame was the 2015 KAM register.

A semi-structured self-administered questionnaire was used to collect data from enterprise owners/managers, because they are the most conversant with the firm's strategic position (Rotich *et al*, 2015; Zainol & Ayadurai, 2011), and take responsibility for actions intended to align the firm's strategy, structure, process and environment (Kusumawardhani, 2013; Santos & Brito, 2012; Thomas *et al*, 1993). Statistical Software for Social Sciences (SPSS) Version 20 and Smart PLS 3 software developed by Ringle, Wende and Becker (2015) were used to analyse the data.

RESULTS

The study variables and their first order constructs are shown in Table 1, which also shows the results of construct reliability test. Two constructs, technology variety and growth, had Cronbach alpha values less than 0.6. However, Chin (2010) and Bacon, Sauer and Young (1995) argue that composite reliability is a more reliable measure of internal consistency than Cronbach alpha, because it does not assume equal weighting of measures. Moreover, it is sufficiently reliable for use with PLS-SEM, which prioritizes indicators according to their reliability during model estimation (Hair, Ringle, & Sarstedt, 2011). Therefore, when both Cronbach alpha and composite reliability are given, analysis can still be undertaken if composite reliability values are adequate, even if some Cronbach alpha values may be below 0.6.

Table 2 shows results of convergent and discriminant validity, which were assessed by examining Pearson correlation coefficients and average variance extracted (AVE). The bold figures in the diagonal are AVE values for the respective first order constructs. The entries in the table show that the constructs fulfilled both requirements of convergent and discriminant validity. The high correlations among constructs of the same study variable show good discriminant validity, because they load highly on the variables to which they belong than to those they do not. Additionally, the AVE values show that each construct is quite highly correlated with its own construct which it is intended to measure. Also, for each group of related constructs, it can be seen that they have a small range between themselves, an indication of acceptable convergent validity.

The relationships between the study variables, their sub-constructs and indicators were modeled reflectively. The results in Table 3 and Figure 2 show that all the paths were

positive and significant. There was a significant relationship between sense-making and firm performance, with a path weight of 0.318, significant at $p < .01$. The R^2 value for firm performance was 0.101. This means that sense-making accounts for 10.1% of the variation in firm performance. This addressed the first objective of the study, and shows that sense-making influences the performance of manufacturing firms in Kenya.

The mediation model was tested by entering EO in the path model and examining the path coefficients, using Baron and Kenny's (1986) procedure. Table 4 shows the mediation model results.

The results in Table 3 fulfil Baron and Kenny's (1986) first condition in the mediation test sequence (significant positive relationship between predictor variable and criterion variable). The mediation results in Table 4 show that when EO was introduced into the relationship, there was a positive and significant relationship between sense-making and EO, thus fulfilling the second requirement. Also, while controlling for the effect of sense-making, there was a positive and significant relationship between EO and firm performance, thus fulfilling the third condition. Upon examining the path coefficient between sense-making and firm performance, it was observed that it had shrank from a positive and significant value of 0.318 ($p = .001$), to a non-significant value of 0.106 ($p = .328$). This means that EO fully mediates the relationship between sense-making and firm performance. In addition, the value of R^2 changed from the earlier 0.101 to 0.171, indicating that introduction of EO enhanced the relationship, so that sense-making accounted for 17.1% of the variation in firm performance.

DISCUSSION

Sense-making, coupled with EO, will enable manufacturing firms to undertake activities such as investing in developing new products unknown in the market, capturing market appeal and stimulating a sustained demand for the new products. The twin capabilities of sense-making and EO will also enable manufacturing firms to mount effective responses to economic instability, by gleaning information from the economic environment, and using it to proactively change their organization structures, thus positioning themselves to take advantage of economic changes *a priori*. They will therefore be able to update the diversity of their technological and knowledge base, and use them to increase their market share, capture emerging market niches before they are properly established, and reallocate their resources in order to adjust their focus between local and foreign markets.

These actions will increase the performance of manufacturing firms in Kenya, as they will result in growth through increased employment, sales and asset base. They will also enhance profitability through increases in return on investment and return on assets. Correspondingly, efficiency will rise through increased return on equity, net sales to total capital ratio, and total assets to total debt ratio.

IMPLICATIONS FOR RESEARCH AND PRACTICE

The findings of this study invite further inquiry. This is a rare study which investigated the relationship between sense-making, EO and performance of manufacturing firms in Kenya. It provides new knowledge in an uncharted territory, and provides a reference point for subsequent studies in the area. If managers of manufacturing firms will engage EO as they seek to make sense of confounding economic phenomena, they can experience increases in their firm output, through enhancing earlier performance levels without EO engagement. Therefore, EO is a critical component in enhancing the performance of manufacturing firms. Manufacturing firms should strategize on how they can increase their stock of EO and leverage it for increased performance. The strategic accumulation of resources should be matched with a strategic acquisition of EO through recruitment practices that bring into the firms entrepreneurially minded employees. Latitude for employees' entrepreneurial expression will enable manufacturing firms to appropriate the benefits of EO for superior firm performance.

CONCLUSION

Entrepreneurial orientation, employed in conjunction with sense-making, is a critical component in the management of manufacturing firms. It can account for the difference between firms that will develop a competitive advantage and those that will drop out of the competition. Any firm that will take a path of continuous growth and profitability must engage EO to maximize its sense-making capability outcomes.

FUTURE RESEARCH

More studies should be conducted involving the sense-making constructs investigated in this study, in order to avail more literature on its relationship with manufacturing firm performance. Also, more sub-variables of EO and manufacturing firm performance may be studied to generate more knowledge of these phenomena.

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Table 1: Construct reliability

Study variables	Construct	Cronbach's alpha ≥ 0.6	Composite reliability ≥ 0.7	Average variance extracted (A.V.E.)
Sense-making	New products portfolio (NP)	1.000	1.000	1.000
	Technology variety (TV)	0.515	0.805	0.673
	Market diversity (MD)	0.429	0.775	0.634
Entrepreneurial	Innovativeness (IN)	0.786	0.875	0.700
Orientation	Proactiveness (PR)	0.878	0.925	0.804
	Risk taking(RT)	0.852	0.910	0.772
Firm Performance	Growth (PG)	0.541	0.812	0.683
	Profitability (PP)	0.776	0.872	0.695
	Efficiency(PE)	0.709	0.873	0.774

Table 2: Validity Analysis

	NP	TV	MD	IN	RT	PR	PG	PP	PE
NP	1.00								
TV	.650**	.820							
MD	.524**	.682**	.800						
IN	.446**	.529**	.528**	.837					
RT	.359**	.487**	.525**	.723**	.879				
PR	.367**	.468**	.492**	.600**	.518**	.897			
PG	.166	.149	.204	.222	.295**	.207	.756		
PP	.188	.370**	.374**	.333**	.288*	.262*	.719**	.818	
PE	.161	.278*	.210	.397**	.381**	.378**	.703**	.637**	.879

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

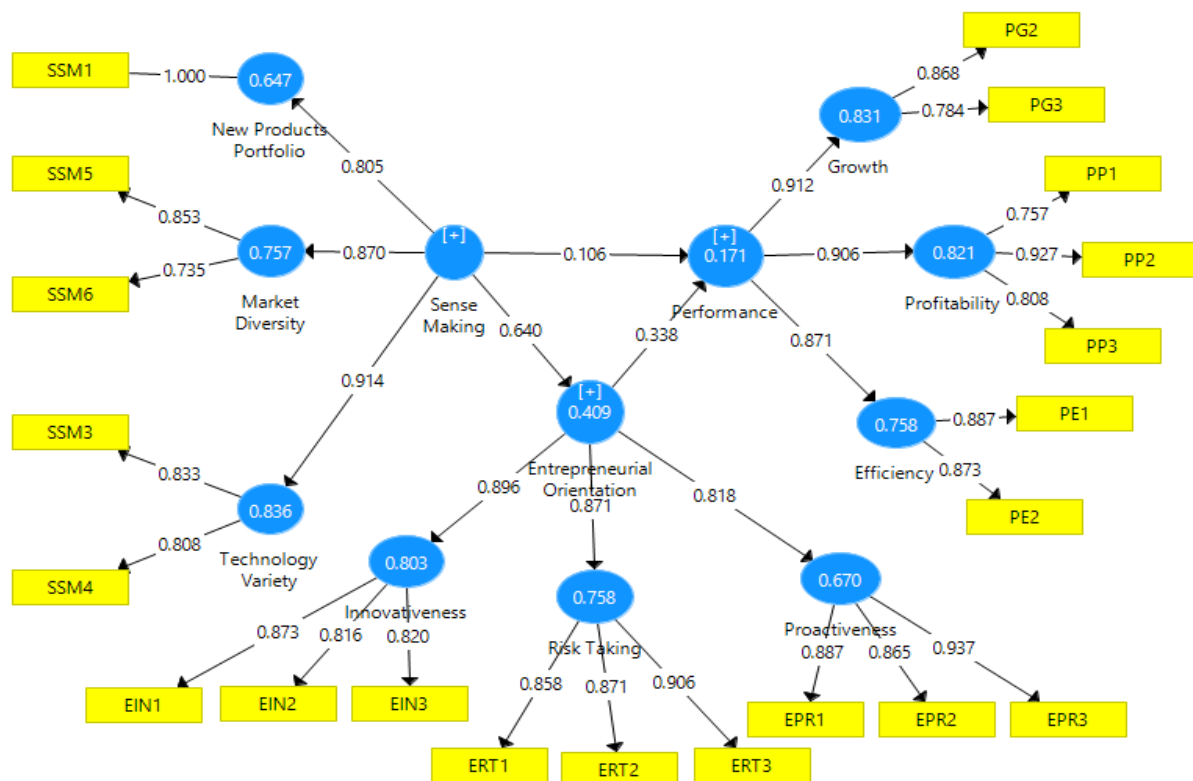
Diagonal values shown in bold are square root of AVE for each respective construct

Table 3: Sense-making Path Coefficients

Path	Sample mean	Std. dev.	Std. error	t-statistic	p-value
Sense-making → Firm performance	0.318	0.324	0.092	5.428	.001
Sense-making → New Products Portfolio	0.807	0.811	0.037	21.983	.000
Sense-making → Technology Variety	0.916	0.916	0.022	41.144	.000
Sense-making → Market Diversity	0.867	0.866	0.037	23.506	.000

Table 4: EO Mediating Influence on Relationship between Sense-making and Firm Performance

Path	Sample mean	Std. dev.	Std. error	t-statistic	p-value
Sense-making → EO	0.640	0.089	0.037	7.203	.000
EO → Firm performance	0.338	0.119	0.022	2.833	.005
Sense-making → Firm performance	0.106	0.108	0.092	0.978	.328

**Figure 2: EO Mediating Influence of on Relationship between Sense-making and Firm Performance**