ORIGINAL RESEARCH ARTICLE

Networking capability and sustainable competitive advantage of small and medium food manufacturing enterprises in Kenya

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ABSTRACT

In every country's economic development objective, manufacturing firms owned by small and medium-sized enterprises (SMEs) play a critical role. They provide a variety of economic contributions; income generation, the creation of new job opportunities, the introduction of innovation, and the promotion of competition are all examples of these. Despite their substantial contribution, SMEs in the food manufacturing sector in developing economies confront a variety of problems and constraints that prevent or limit their ability to maintain a sustained competitive advantage. Networking competency has been identified as one of the missing link to the sustainability of SMEs. The aim of this study was to determine the effect of network capabilities on the sustainability of SMEs in Kenya's food manufacturing enterprises. A cross-sectional approach and a descriptive survey design were utilised in this study. Quantitative primary data was obtained from 106 owners of 123 SMEs in the food and beverage sub-sector in Kenya registered by the Kenya Association of Manufacturers, yielding an 86 percent response rate. The research revealed that networking capabilities account for 6.9 percent of SMEs' sustainable competitive advantage, with each unit increase in networking capabilities improving the SCA of Kenyan SMEs by 0.306.

Keywords: Manufacturing enterprises, networking capability, small and medium enterprises, sustainable competitive advantage

1.0 Introduction

Small and medium-sized enterprises (SMEs) play an important role in job creation in Kenya. The sector currently employs more than 80% of the workforce and is critical to the country's economic growth goals. Small and medium-sized enterprises (SMEs) can assist the government in accomplishing its development goals by providing more jobs, strengthening sectors, and developing viable business models (Aigbavboa, Tshikhudo, & Thwala, 2014). SMEs are considered essential to achieving sustainable global development.

Manufacturing small and medium-sized businesses (SMEs) are extremely important in most global economies. According to Gbandi and Amissah (2014), 39% of SMEs are in the manufacturing sector and account for 33% of overall exports. They are regarded as a significant source of employment, technological improvements, and competitive advantage in Nigeria (Olise, Anigbogu, Edoko, & Okoli, 2014). Aigbavboa, Tshikhudo, and Thwala (2014) assert that

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they are quite important in Swaziland, especially in terms of employment creation and poverty alleviation. Research indicates that they play a significantly greater role in emerging economies. They deliver, on average, more than 40% of GDP and 50% of employment (Blackburn, 2016). In high-income countries, manufacturing small and medium-sized businesses (SMEs) represent the economic backbone, while they are underdeveloped in low-income countries. According to the Kenya Association of Manufacturers 2016, in the Kenya manufacturing sector, the average contribution to the gross domestic product (GDP) is just over 10%. On the contrary, they employ roughly 65 percent of the working population in high-income countries. Kenya National Bureau of Statistics (KNBS) annual data from economic analysis results for the period 2016–2019 indicates that despite some major sectors of the Kenyan economy having experienced intermittently higher growth, creating more impact on the economy, the manufacturing sector has consistently decelerated in growth rates. This is despite the fact that food production remains a major productive activity. The food and beverage industry made up 41% of the manufacturing sector's GDP in 2015, which in turn made up 11.4% of the GDP of the entire nation (KAM, 2015). The 2017 KNBS figures show that two-fifths of the industry contribution to GDP comes from the food and beverage sectors; however, its productivity declined by 0.1% in 2019 compared to an increase of 10.4% in 2018.

According to a previous study, a SME's success, performance, and long-term competitiveness are highly dependent on the entrepreneur's abilities (Li & Liu, 2014). This research mainly focused on testing how the networking capability competency factor influences the sustainable competitive advantage of SMEs. Networking capability contributes to the competitiveness of an organisation (ENGİNOĞLU & Arikan, 2016). There is a knowledge gap in understanding the connection between networking power and the ongoing competitive advantage of SMEs in the emerging economy. This research examined the relationship between networking skills and the sustainable competitive advantage (SCA) of Kenyan small and medium food manufacturing enterprises. The independent variable is networking capability, while the dependent variable is the sustainable competitive advantage of Kenyan food manufacturing SMEs.

Networking capability can be described as the organization's ability to create beneficial and profitable relationships within and outside the firm. The main components of networking competence are social capital, coordination, partner knowledge, and internal communication (Kale et al., 2000). Social capital incorporates tangible and intangible aspects of human interaction that need to adapt to a range of social contexts, together with appropriate responses to the list of social motivations and information (Dayan et al., 2013). Coordination between integrated firms facilitates knowledge and value creation. Knowing about your partners allows you to use situation-specific approaches to relationship building and network coordination. Internal communication, or competency in collaborative communication within the firm, promotes the assimilation and dissemination of up-to-date information on partners, thus integrating external relationships into internal knowledge. These elements of networking capability (NC) are in sync with one another and strengthen one another (Walter et al., 2006).

The advantage of a single company over long-term competitors in a specific strategic, market, or industry group is known as sustainable competitive advantage (SCA). Sustainable competitive

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advantage refers to the company's efforts to create and retain long-term benefits (Hakkak & Ghodsi, 2015). For SMES to achieve sustainability, they need to develop different skills (Jardon & Loureiro, 2013). Continuous competitive profit is viewed as success; it often shows that the company can achieve its long-term goals. Despite the fact that there are different scales for SCA, the standard score card method is considered reliable (Milis & Mercken, 2004). According to Wu, Tzeng, and Chen (2009), the assessment card contains an integrated set of financial and non-financial performance indicators based on the company's strategy that supports the implementation of company strategic considerations.

Despite the overwhelming evidence of food manufacturing SMEs' significance and potential in wealth creation, the sector faces a number of obstacles and restraints that threaten its long-term viability. In Kenya, there is growing worry over continued stagnation and a reduction in SMEs growth (Kiveu & Ofafa, 2013). If allowed to persist, low firm performance could make the country more vulnerable to price volatility in foreign markets (Onjala, 2010). Past studies indicate that SMEs' network capability determines the success of the firm (Chaston & Scott, 2012). Networking capability rates highly as an important competence of entrepreneurs (Wilkinson & Johnston, 2004; Auer & Ritter, 2006). Only a few studies have focused on networking capability (Äyväri, 2006). There is also a gap in the knowledge base relating to the specific networking capabilities of entrepreneurs in developing economies. The research aimed at investigating the effect of network capabilities on the sustainability of SMEs in Kenya's food manufacturing industry.

The theories informing this research included the social networking theory, which posits that personal and social networking interactions and linkages contribute positively to enterprises in a network by allowing them to take advantage of the network's resources (Borgatti & Halgin, 2011). The theory emphasizes the importance of cohesive links and social relationships in obtaining resources, information, and expertise to support economic activity performance (McPherson, Smith-Lovinand Cook, 2001). Social network theory is pertinent to this research because it explains the advantages that entrepreneurs gain from joining a social network. It describes how the socializing of top management has an impact on performance (Borgatti & Halgin, 2011). The resource-based view theory (RBVT) also informed this research. It analyses and identifies the benefits of a company's strategies based on evaluating its unique combination of assets, skills, abilities, and intangible assets (Adomako & Danso, 2014). Opportunities for entrepreneurs arise when entrepreneurs gain an understanding of the amount of services that others lack, recognise the value and potential offered by specialised knowledge, and integrate it to capitalise on those prospects (Barney, Ketchen Jr., & Wright, 2011). To build a SCA, a company needs a diverse set of resources as well as business and management abilities to identify and exploit the production opportunities available to it (Rau, 2014). Businesses focused on the future are compelled to allocate their resources more strategically in order to take advantage of the market's potential and obtain a competitive edge(Chebichii, Namusonge & Makokha,2023)

The literature review highlighted four essential networking capabilities: social capital, coordination, partner's knowledge, and internal communication. These networking capabilities

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may affect SMEs' food manufacturing ability to sustain their competitive advantage. They form the independent variables of the research, while sustainable competitive advantage is informed by Return on Assets (ROA) and Return on Investment indicators of small and medium food manufacturing enterprises in Kenya.

2.0 Methodology

This research adopted a positivistic philosophical approach. Positivism supports an objective interpretation of reality based on hard evidence from formal, structured surveys with a well-defined plan (Antwi & Hamza, 2015). Positivists are characterized by theoretical research theory and statistical confirmation of the conclusions drawn from experimental concepts, which are the essence of the principles of social science (Cooper & Schindler, 2011).

This study adopted a cross-sectional survey and descriptive research methods. The study used a multidisciplinary research design to investigate the existence and magnitude of the resulting causes of independent variation based on interest over time (Dasgupta & Singh, 2006). A descriptive survey design was used to collect data from 123 respondents to assess hypotheses about the impact of networking capability on the sustainable competitive advantage of SMEs in food manufacturing in Kenya. It is crucial to choose appropriate approaches, methods, and strategies in order to successfully answer the research questions (Ayaga,Mburu& Karanja 2024)

All 123 SME food producers registered with the Kenya Association of Manufacturers (KAM) and listed in the KAM Directory 2019 were the subjects of the study. The study relied on census data because the population was small (Kothari, 2004). The analysis unit was for food and beverage companies. The food and beverage sector was chosen because it has the largest number of firms in Kenya's manufacturing sector with a minimal GDP contribution of 3.5%.

2.1 Data collection analysis and presentation

The study used a Likert-scale questionnaire to collect data from SMEs in the food production industry. Polkinghorne (2005) asserts that Likert-scale questions are easily filled out by respondents. The questionnaire was designed based on independent and dependent variables and was distributed to all SME owners and managers of the KAM food and beverage industry in Kenya. To test the research hypothesis, data was submitted to SPSS, coded, and analysed.

3.0 Results and Discussion

3.1 Response rate

The analysed data included 106 of the total 123 targeted respondents registered by the Kenya Association of Manufacturers, bringing a positive response rate of 87 percent.

3.2 Hypothesis testing

A diagnostic test was performed to determine the suitability of the Ordinary Least Squares (OLS) regression model. Tests were conducted on the regression modelling, and the results showed that the data was normally distributed, with a direct correlation between sustainable competitive advantage and networking capability.

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3.3 Effect of networking capability on the sustainable competitive advantage

The research hypothesis was: H_0: Networking capability has no significant effect on the sustainable competitive advantage of SMEs in food manufacturing in Kenya. The OLS performed has three outputs: the model summary, the regression ANOVA, and lastly, the regression coefficient, as shown in Table 4.23.

The model summary results show that the influence of NC on the SCA of SMEs in food manufacturing in Kenya is statistically significant (R^2 = 0.069, F (1, 104) =8.775, p-value <.05.). This shows 6.9% of the SCA of SMEs in food manufacturing in Kenya is attributed to NC, while the remaining 93.1% can be attributed to other factors not included in the study and the error term.

The regression ANOVA output indicates that NC had a significant influence on SCA (F (1, 104) = 8.775, p<.05). This shows the regression model used was suitable for predicting the outcome variable on the influence of NC on the SCA of SMEs in food manufacturing in Kenya.

Lastly, the coefficient shows the regression coefficient of the NC on SCA. The output shows NC as a component of EC had a significant influence on SMEs in food manufacturing in Kenya (β =.306, t = 2.962, p<.05). This shows a unit increase in NC increases the SCA of SMEs in food manufacturing in Kenya by 0.306.

Table 3.31: Regression Model Output of NC on SCA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.279[a]	.078	.069	.55902	.078	8.775	1	104	.004

a. Predictors: (Constant), Networking Capability

ANOVA of NC on SCA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.742	1	2.742	8.775	.004[b]
	Residual	32.500	104	.313		

a. Dependent Variable: Sustainable Competitive Advantage

b. Predictors: (Constant), Networking Capability

Coefficients of NC on SCA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.739	.666		2.610	.010
	Networking Capability	.306	.103	.279	2.962	.004

a. Dependent Variable: Sustainable Competitive Advantage

The study derived the model for NC and SCA based on simple regression model:

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$$Y = \beta_0 + \beta_{iii}x_{iii} + \varepsilon$$

Where;

Y =SCA;
β_0 = Constant;
β_{iii} = NC and
ε= Error term.
Y= 1.739 + .306X

The regression model showed the NC significantly predicted the SCA of SMEs in food manufacturing in Kenya (β =.306, t = 2.962, p<.05). This shows a unit increase in NC increases the SCA of SMEs in food manufacturing in Kenya by 0.306, leading to the rejection of the null hypothesis.

4.0 Conclusion

The study concluded that networking capabilities are essential for SMES to achieve a sustainable competitive advantage. The research recommends that SME owners and managers should develop and implement strategies that will improve networking skills in order to gain a sustainable competitive advantage over firms. In addition, there is a need for the government and other regulators to enhance communication capacity with SMEs by providing forums where SMEs can engage and build mutually beneficial relationships. The report also suggests that policymakers develop proactive, future-oriented measures to help SMEs improve their networking skills.

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5.1 General acknowledgement

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5.2 Conflict of interest

This research study had no conflict of interest.

5.3 Ethical Approval

Relevant consent to undertake the study was obtained from St. Pauls University Ref: SPU/47/2023.

6.0 References

Adomako, S., & Danso, A. (2014). Financial Literacy and Firm performance. The moderating role of financial capital availability and resource flexibility. International Journal of Management & Organizational Studies. Volume 3, Issue 4, ISSN: 2305-2600.

ISSN 1561-7645 (online)
doi: 10.4314/jagst.v23i3.1

Aigbavboa, C., Tshikhudo, L., & Thwala, W. (2014). Identification of critical success factors for the survival of small, medium and micro enterprise contracting firms in the greater Johannesburg metropolitan area. https://hdl.handle.net/10210/73309

Antwi, S, K. & Hamza, K. (2015). Qualitative and Quantitative research paradigms in business Research: A philosophical reflection. European journal of business and management vol 7 issue 3.

Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. Journal of business venturing, 21(4), 541-567. https://doi.org/10.1016/j.jbusvent.2005.02.005

Ayaga, F., Mburu, C., & Karanja, B. (2024). Assessment of ergonomics hazards and associated health effects in selected food and beverage industries Nairobi Kenya. *Journal of Agriculture, Science and Technology , 23*(1), 1-11.

Äyväri, A. (2006). Käsityöyrittäjien verkosto-osaaminen. https://urn.fi/URN:NBN:fi:aalto-201808134569

Barney, J. B., Ketchen Jr, D. J., & Wright, M. (2011). The future of resource-based theory: revitalization or decline? *Journal of Management, 37*(5), 1299-1315.

Blackburn, R. A. (2016). *Government, SMEs and entrepreneurship development: Policy, practice and challenges*. Routledge. ISBN 9781138248250

Borgatti, S.P. and Halgin, D.S. (2011) On Network Theory. Organization Science, 22, 1168-1181. http://dx.doi.org/10.1287/orsc.1100.0641

Chaston, I., & Scott, G. J. (2012). Entrepreneurship and open innovation in an emerging economy. *Management Decision*. ISSN: 0025-1747

Chebichii, B. D., Namusonge, G. S., & Makokha, E. N. (2023). Moderating effect of organization culture on the relationship between supplier development and organizational performance in food and beverage manufacturing companies in Kenya. *Journal of Agriculture, Science and Technology, 22*(3), 100-115. doi:10.4314/jagst.v22i3.8

Chen, J., Sousa, C. M., & Xinming, H. (2016). The determinants of export performance: a review of the literature 2006-2014. *International marketing review.*, *33*(5), 626-670. https://doi.org/10.1108/imr-10-2015-0212

Cooper & Schindler, S. (2011). Bogen and Woodward's data-phenomena distinction, forms of theory-ladenness, and the reliability of data. *Synthese, 182*(1), 39-55.

Dasgupta, S., & Singh, A. (2006). *Manufacturing, services and premature de-industrialisation in developing countries: a Kaldorian empirical analysis. ESRC Centre for Business Research, University of Cambridge*. http://www.wider.unu.edu/publication/manufacturing-services-and-premature-deindustrialization-developing-countries

Dayan, E., Censor, N., Buch, E. R., Sandrini, M., & Cohen, L. G. (2013). Noninvasive brain stimulation: from physiology to network dynamics and back. *Nature neuroscience*, *16*(7), 838-844. doi: 10.1038/nn.3422. Epub 2013 Jun 25.

ENGİNOĞLU, D., & Arikan, C. L. (2016). A literature review on core competencies. *International Journal of Management (IJM), 7*(3),120- 127

Gbandi, E., & Amissah, G. (2014). Financing options for small and medium enterprises (SMEs) in Nigeria. *European Scientific Journal*, 10(1).

Hakkak, M., & Ghodsi, M. (2015). Development of a sustainable competitive advantage model based on balanced scorecard. *International Journal of Asian Social Science*, 5(5), 298-308

ISSN 1561-7645 (online)
doi: 10.4314/jagst.v23i3.1

Jardon, C., & Loureiro, M. (2013). Human capital as source for sustained competitive advantages in SMEs: A core competencies approach. *Economia. Seria Managemen*t, 16(2), 255-276.

Kale, P., Singh, H., & Perlmutter, H. (2000). Learning and protection of proprietary assets in strategic alliances: Building relational capital. *Strategic Management Journal,* 21(3), 217-237.

Kenya Association of Manufacturers (2015). *Kenya Association of Manufacturers and Exporters Directory 2015*.Nairobi: Kenya Association of Manufacturers.

Kiveu, M., & Ofafa, G. *(2013). Enhancing market access in Kenyan SMEs using ICT. Global Business and Economics Research Journal, 2*(9), 29-46.

Kothari, C.R. (2004) Research Methodology: Methods and Techniques. 2nd Edition, New Age International Publishers, New Delhi.

Li, D.-y., & Liu, J. (2014). Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China. *Journal of Business Research, 67*(1), 2793-2799.

McPherson, Smith-Lovinand Cook, 2001 Effect of networking on performance of small and medium sized audit firms In Nairobi. http://41.89.49.13:8080/xmlui/handle/123456789/1193

Milis, K., & Mercken, R. (2004). The use of the balanced scorecard for the evaluation of information and communication technology projects. *International Journal of Project Management, 22*(2), 87-97. DOI:10.1016/S0263-7863(03)00060-7

Olise, M. C., Anigbogu, T. U., Edoko, T. D., & Okoli, M. I. (2014). Determinants of ICT adoption for improved SME's performance in Anambra State, Nigeria. *American International Journal of Contemporary Research*, *4*(7), 163-176. https://doi.org/10.1108/JEIM-05-2013-0024

Onjala, J. (2010). The Impact of China-Africa Trade Relations: The Case of Kenya.

Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology*, *52*(2), 137. DOI:10.1037/0022-0167.52.2.137

Rau, S. (2014). Resource-based view of family firms. *The sage handbook of family business*, 321-340. DOI:10.4135/9781446247556.n16

Walter, A., Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of Business Venturing, 21*(4), 541-567. https://doi.org/10.1016/j.jbusvent.2005.02.005

Wilkinson, I. F., & Johnston, W. J. (2004). Firms' ability to manage in business networks: a review of concepts. *Industrial Marketing Management*, *33*(3), 175-183. ISSN: 0019-8501

Wu, H. Y., Tzeng, G. H., & Chen, Y. H. (2009). A fuzzy MCDM approach for evaluating banking performance based on Balanced Scorecard. *Expert Systems with Applications*, *36*(6), 10135-10147. https://doi.org/10.1016/j.eswa.2009.01.005

ISSN 1561-7645 (online)
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