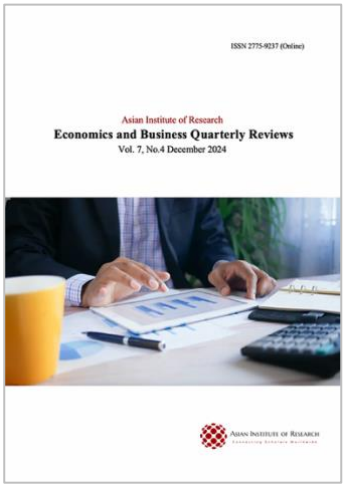

Economics and Business Quarterly Reviews

Khadiakala, B. I., & Muathe, S. M. (2024). Building Sustainable Performance for Small and Medium Enterprises in Bungoma County, Kenya: The Role of Technological Innovations Strategies. *Economics and Business Quarterly Reviews*, 7(4), 251-260.

ISSN 2775-9237

DOI: 10.31014/aior.1992.07.04.635

The online version of this article can be found at:
https://www.asianinstituteofresearch.org/

Published by:
The Asian Institute of Research

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The Asian Institute of Research
Economics and Business Quarterly Reviews
Vol.7, No.4, 2024: 251-260
ISSN 2775-9237

DOI: 10.31014/aior.1992.07.04.635

Building Sustainable Performance for Small and Medium Enterprises in Bungoma County, Kenya: The Role of Technological Innovations Strategies

Brian Itolondo Khadiakala[1], Stephen Makau Muathe[2]

[1] School of Business, Economics and Tourism, Kenyatta University. Email: tondo224@gmail.com
[2] School of Business, Economics and Tourism, Kenyatta University. Email: muathe.stephen@ ku.ac.ke

Correspondence: Brian Itolondo Khadiakala. Email: tondo224@gmail.com

Abstract
The global economy's changes have led to enterprises developing strategies to adapt, resulting in gradual market share reductions, sales volume decreases, and overall size reductions. Kenyan SMEs experienced a 58% decrease in sales revenue and 75% employee reductions from 2017-2018, followed by a 59% decline in sales and profit growth in 2022. Therefore, the current project investigated the effect of technological innovation strategies; which are product innovation, process innovation, marketing innovations and organization innovations on performance of SMEs in Bungoma County, Kenya. The study used resource-based view, dynamic capabilities theory, theory of innovation and technology organization environment framework. The study embraced descriptive research design. The target population was 4,264 SMEs in Bungoma County. Stratified and random sampling techniques were used as a sampling technique. A sample size of 366 was determined using Yamane formula of 1967. Primary data was collected using a structured questionnaire. The response rate was seventy six percent. The study established a positive and significant relationship between product innovations, process innovations, marketing innovations and organizational innovations on the firm performance of SMEs Bungoma County. The study recommends that the enterprises should developing products that address specific market gaps, prioritize adopting technology-driven solutions that streamline operations, reduce costs, increase productivity and leverage digital platforms to reach a broader customer base and empower employees through skill development and training, increases effectiveness. The study recommends further research on metrics beyond technological innovation strategies and firm performance, as well as exploring counties beyond Bungoma County.

Keywords: Technological Innovation Strategies, Sustainable Performance, Small and Medium Enterprises, Bungoma County, Kenya

1. Introduction

Changes in the global economy and the business environment have compelled organizations to develop, choose, and execute strategies to respond to turbulence and achieve firms success (Fuertes *et al.*, 2020). These transformations have inspired numerous enterprises from developed and developing nations to pursue tactics that

will allow them to expand their market, enhance customer satisfaction, and increase sales volume on a global level (Ahammad, Basu, Munjal, Clegg & Shoham, 2021). The literature on strategic management emphasizes utilization of an technological innovations strategies by an organization results in organizational success (Bagheri *et al*., 2019). These technological innovation strategies are typically implemented to enhance profitability, efficiency, and to establish a competitiveness.

Whilst, Ferreira *et al.,* (2021) put emphasizes on how the technological innovation strategies significantly influence the development of international competitiveness that enhance performance, and competitiveness on a global scale. Subsequently, Wei *et al.,* (2014) posit technological innovation strategies allows companies to align technologies with market opportunities in order to expand their development. The small and medium enterprises (SMEs) are increasingly recognizing the pivotal role of technological innovation in driving their performance and competitiveness in the swiftly changing field of business (Rahman Yaacob & Radzi., 2016: Gamage *et al.,* 2020). The enterprises are social organizations that are intentionally designed to generate revenue, but they are subject to the influence of both their internal and external environments (Nyachoti, Machuki & Oteki, 2018: Mnyazi & Makhamara, 2023). Globally, the enterprises dominate the global business sector, accounting for over 95% of all enterprises worldwide and providing over 60% of the private sector's employment. The SMEs in Kenya, account for 75% of all businesses and contribute 80 percent of the total employment (GOK, 2015: Zahoor *et al.,* 2023). This sector covers all sectors of the economy.

Bungoma County, situated in western Kenya, with a total of 4264 licensed SMEs across different informal sectors indicates that services are home to the majority (84.5%), while manufacturing, agribusiness, and construction, mining, and quarrying each account for 11.8%, 3.3%, and 0.5%, respectively (County Government of Bungoma, 2019: KIPPRA, 2022). However, these small and medium enterprises encounter a variety of challenges, including a lack of general financial resources, changing consumer requirements, inability to access markets, and increased competition, Inadequate business management skills, lack of fundamental infrastructure and lack of information management technology (Kaplinsky & Morris, 2019: Eggers, 2020: Gamage *et al.,* 2020: Zahoor *et al.,* 2023). These challenges have a detrimental impact on the performance of SMEs in Bungoma County.

1.1 Statement of the problem

The Kenyan government's endeavors to foster industrialization, combat poverty and unemployment, and transition the nation to a middle-income status are partially contingent upon the expansion and development of the SMEs sector (Vision, 2030). To address this, the Bungoma government has developed and executed a variety of blueprints such as giving loans and credits to the SMEs, trainings and seminars to assist the SMEs in the county (County Government of Bungoma, 2019). Additionally, through Vision 2030, the government of Kenya has implemented a series of reforms including National Industrialization Policy framework, buy Kenya build Kenya and manifesto on the big four agenda to help the growth and performance of SMEs enterprises in Kenya (GOK, 2023).

Despite the initiatives taken by the county government of Bungoma and the national government of Kenya to improve the performance of SMEs in Bungoma County, the performance of these enterprises has been steadily declining (Nyachoti, Machuki & Oteki 2018). Research conducted by Otieno *et al.,* (2018) from 2017 to 2018, on the performance of SMEs in Bungoma county, It was discovered that 58% of SMEs saw a decline in revenue, while 75% reported a reduction in their workforce. Moreover, research by Kenya Climate Innovation (2020) revealed that the sales and profit volumes of SMEs decreased between 2017 and 2019. Further, Muthoka (2022) reported that the performance of SMEs experienced a 59% decline in sales and profit growth.

Empirical literature on previous research in diverse contexts indicates that the construct done on individual components of technological innovations strategies in Europe, Asia, US, SMEs, textile, hospitality, restaurants, manufacturing, banking (Chege, Wang & Suntu, 2020: Awan, Arnold & Gölgeci, 2021: Noone, lin & Sharma, 2024). Further, Empirical literature from various studies indicated the similarities of the findings to other sectors on matters pertaining to low methodological rigor resulting from use of use of non-probability sampling techniques, use of secondary data only, exploratory research design and small sample sizes for data collection

(López-Cabarcos *et al.,* 2019: Waheed *et al.,* 2019: Naveed *et al.,* 2022). Therefore, the purpose of this study is to investigate the effect of technological innovation strategies on performance of SMEs in Bungoma County, Kenya.

1.2 Objectives of the Study

i. To examine the effect of product innovations on performance of small and medium enterprises in Bungoma County, Kenya.
ii. To assess the effect of process innovations on performance of small and medium enterprises in Bungoma County, Kenya.
iii. To determine the effect of marketing innovations on performance of small and medium enterprises in Bungoma County, Kenya.
iv. To determine the effects of organizational innovations on performance of small and medium enterprises in Bungoma County, Kenya.

2. Review of Literature

2.1 Theoretical Review

The most relevant theories that anchored the study were RBV, dynamic capabilities theory, theory of innovation and technology organization environment framework. The resource-based view came into existence during the early 1950s due to the contributions by Penrose, in 1959. According to the RBV fundamental argument, a company's internal environment and resources are attributes of firm heterogeneity (Ismail *et al.,* 2020). Significance development of RBV by Wernerfelt, (1984) proposed that acquiring diverse and unique firms' resources is necessary for exceptional performance and efficiency for achieving long-term competitiveness. A firm's performance is contingent upon its distinctive resources and capabilities, which are specific to each enterprise and influence its performance. The SMEs in Bungoma County should find a way on how to utilize extensive collection of resources to increase the sales volume and market share. The ability to transform resources into advantages is known as capability (Nothnagel, 2008). Therefore, technological innovations strategies that should be implemented by SMEs in Bungoma County should hold significant value due to their unique characteristics of being inimitable and non-substitutable, which ultimately contribute to the creation of superior performance.

The dynamic capability theory is a theoretical framework that builds upon the resource-based perspective of the firm (Gregory *et al.,* 2019). It was initially proposed by Teece and Pisano, (1994) with the aim of providing an explanation for how firms might enhance their ability to adapt and take advantage of quickly evolving technology landscapes. The theory documents that, the firm's ability to actively utilize its internal and external resources to bring about desired transformation is the basis for this theory's perception of the ability to change (Muthoka, 2022). The enterprise resources are essential for achieving a rapid response to the competitive environment by gathering information on swiftly evolving technological innovation strategies and acquiring knowledge for production innovation (Fainshmidt *et al.,* 2019). However, the capability to enhance the efficiency of product innovation has been realized via the acquisition of comprehensive and varied knowledge using external collaborations (Lee & Yoo, 2019).

The theory of innovation was formulated by Joseph Schumpeter, in 1934. Joseph Schumpeter's theory of innovation, expounded notably in his work "Capitalism, Socialism, and Democracy" (1942), presents a groundbreaking perspective on the transformative dynamics of capitalism. The theory posits entrepreneurs as the agents of change, by introducing innovative products, processes, or business models that disrupt existing established markets (Cristescu & Nerișanu, 2021). Schumpeter identifies various forms of innovation, including product, process, market, and organizational innovations, each contributing to the continuous renewal of economic activity (Callegari & Nybakk, 2022). Schumpeter's theory underscores the vital role of entrepreneurship and the dynamic interplay between innovation, competition, and economic growth in capitalist societies. This theory was essential for the establishment of technological innovation strategies and performance variables within the context of SMEs in Bungoma County, Kenya.

The technology organization environment framework implemented by Tornatzky and Fleischer, in 1990. Organizational studies and management use the technology organization environment (TOE) as a framework to understand the link between the external environment, organizational structure, and technology (Awa *et al.,* 2017). The TOE theory provides a comprehensive framework for organizations to develop and execute effective technological innovation strategies (Malik *et al.,* 2021). Organizations can cultivate an environment that is conducive to innovation, align their technological investments with strategic objectives, and overcome obstacles presented by external factors by taking into account the interplay between technology characteristics, organizational dynamics, and the external environment (Wulandari *et al.,* 2020). Therefore, the TOE framework provided a more comprehensive explanation for the acceptance of innovations in technology.

2.2 Empirical Review

The empirical literature review was based on individual concepts of technological innovation strategies: product, process, marketing, organizational innovations on performance**.** Product innovation entails product modification, product improvement, and the production of high-quality products that result in consumer satisfaction. A research undertaken by (County Government of Bungoma, 2019) examined the integration of tacit knowledge resources into product innovation, and firm performance in 521 industrial organizations in Portugal with over 50 employees. The Portuguese National Institute of Statistics was the source of the data. At the conclusion of the data collection procedure, 153 organizations had submitted responses, which accounted for 29% of the study group. Employing hierarchical regression analysis and SEM. Product innovation positively influenced firm performance in a positive way. The research was undertaken in Portugal which is an already economically developed market. Moreover, the study was conducted in industrial organizations with more than 50 employees which is structurally and operationally different from SMEs in Bungoma County, Kenya. The study uses secondary data for data analysis that does not capture the current market trends.

On the same issue of product innovation, Noone, Lin and Sharma (2024) discusses adhocracy culture as a critical internal resource that operators can utilize to accelerate the incremental product innovation of US restaurants. The degree of the relationship between incremental product innovation and firm performance is moderated by firm size, which is a contextual factor. The study employed purposive sampling to identify a sample size of 10 respondents, utilizing a sequential exploratory design and mixed methods Adhocracy culture positively impacted firm performance through the degree of incremental product innovation, as evidenced by the results of two empirical studies. The study uses exploratory research design which should not be conclusive in nature but gives insights. Additionally, purposive sampling is straightforward to implement, but it frequently leads to biased results because it is dependent on the accessibility and availability of participants, rather than the systematic selection of a diverse and representative sample. Moreover, the study was conducted in restaurants in US which is structurally and operationally different from SMEs in Bungoma County, Kenya.

Process innovations facilitate the creation of production and product processes that are eco-friendly. A study conducted by, Awan, Arnold and Gölgeci (2021) on the influence of buyer-driven knowledge activities on green product and process innovation in manufacturing firms in Pakistan. Simple random sampling techniques were employed to select a sample of 239 manufacturing firms. A response rate of 36.1% was achieved, as 239 valid responses were received out of 650 questionnaires that were sent. The findings suggested that buyer-driven knowledge activities have a more significant positive influence on green product innovation than green process innovation. The response rate of 36.1 % out of the estimated population was relatively very small and results of the finding cannot be generalized using this sample size. Mugenda and Mugenda, (2003) advocate for a sample response rate of 50%, which would be appropriate for data analysis.

In addition, Cirera and Sabetti, (2019) discuss the expansion of employment and innovation in the service and manufacturing sectors. The survey employs a stratified sampling strategy, under which firms are categorized by industry, size, and location. Large and medium-sized firms are disproportionately represented. The final data set includes samples from enterprises across 53 countries in the manufacturing and service industries, covering four major regions: Africa, Europe-Central Asia, the Middle East and North Africa, and South Asia. The data analysis was based on a sample of over 15,000 firms that were aggregated cross-sections and contained sufficient

information on employment and innovation. The results suggested that firms engage in innovation activities, including organization, process and product innovations, enable to decompose employment growth. Data was collected from from 53 countries in the manufacturing and service sectors while the current study data will be collected from SMEs in Bungoma County, Kenya.

On issues as pertaining to marketing innovations, Na, Kang and Jeong (2019) examined the Correlations between sustainable competitive advantage and marketing innovation, in South Korea. A structural model was employed to analyze a sample of 400 respondents who were selected through convenience sampling. According to the findings, the marketing innovation's product and communication innovations had a substantial impact on the sustainable competitive advantage. The research used convenience sampling is straightforward to implement, but it frequently leads to biased results because it is dependent on the accessibility and availability of participants, rather than the systematic selection of a diverse and representative sample.

Similarly, Udriyah, Tham and Azam (2019) examined the effect of market orientation and marketing innovations on business performance and competitive advantage. The sample size consists of 150 textile SMEs in Selangor, Malaysia. The investigation was analyzed using path analysis. The outcome indicates that competitive advantage was significantly and positively impacted by marketing innovation and market orientation. Malaysia is an already economically developed market. In addition, the study was conducted in textile industry which is structurally and operationally different from SMEs in Bungoma County, Kenya.

Organizational innovation is an activity that involves routine business practices, procedures, and networking, resulting in SMEs' efficient operation. Waheed *et al.,* (2019) conducted a study to examine human resource management practices on innovation performance in the IT firms of Pakistan, with organizational innovation serving as a mediating factor. Data obtained from organizations that are semi-government-based and rely on information technology. The data was collected using the convenience and snowball sampling technique. The 1100 employees were disseminated the questionnaires for over six months, and 632 responses were collected that were entirely valid. Innovation performance positively impacted human resource management practices. The intervening role of organizational innovation was also identified. The study was conducted among the IT sector which is structurally and operationally different from SMEs in Bungoma County, Kenya. In addition, the research used convenience sampling and snowball sampling, which is straightforward to implement, but it frequently leads to biased results because it is dependent on the accessibility and availability of participants, rather than the systematic selection of a diverse and representative sample.

Naveed *et al.,* (2022) on the correlation between organizational culture and efficacy of the banking sector in Pakistan through organizational innovation. Data were collected from 280 employee that operate in Pakistan's banking sector in two phases. Following the deductive approach, the investigation implemented a non-probability purposive sampling methodology. The results suggested that organizational effectiveness is positively influenced by organizational culture. The study was conducted among the banking sector which is structurally and operationally different from SMEs in Bungoma County, Kenya. Moreover, the research used nonprobability sampling technique, which is straightforward to implement, but it frequently leads to biased results because it is dependent on the accessibility and availability of participants, rather than the systematic selection of a diverse and representative sample.

3. Research Methodology

The study used descriptive research designs that are cross-sectional in nature. Saunders *et al.,* (2011) asserts that descriptive research serves as a foundation for qualitative studies, as it offers a comprehensive overview and valuable insights into the variables that warrant quantitative examination. The target population involved all the SMEs in Bungoma County licensed by Bungoma County government as of the year 2024. There are 4264 licensed SMEs in Bungoma county across different informal sectors such as agribusiness, manufacturing, service, and construction, mining, and quarrying (County Government of Bungoma, 2019: KIPPRA, 2022). The study utilized a proportionate stratified and random sampling technique and the sample size was computed using Yamane's formula of 1967 to acquire a sample size of 366 enterprises.

Secondary data was gathered through documented reviews of published sources about SMEs in Kenya and Bungoma County. A structured questionnaire was implemented to acquire primary data. Questionnaires were disseminated to the head of owners and managers of SMEs in Bungoma County. The variables' information was evaluated using Likert scale, with 1 indicating completely disagree and 5 indicating strongly agree. Primary data obtained from questionnaires were subjected to analysis using descriptive statistics within the SPSS version 22. The mean and standard deviation were used as descriptive statistics for data analysis.

4. Research Findings and Discussion

A total of 366 questionnaires were distributed to the owners and managers of each SMEs in Bungoma County. The 280 respondents who responded accounted for 76.5%. The findings suggest that males comprise 46.8 percent of the respondent group, while females comprise 53.2 percent. This demonstrates a proportionate incorporation of the genders, making sure that the study sample accurately reflects the overall population and that there is no gender bias. The majority of the SMEs employees in Bungoma County were between the age brackets of 25 and 34, constituting 32.1 percent. The next age groups were those between 35-44 at 31 percent, 45-54 at 19 percent, and 55-64 at 17.9 percent. Most SMEs had employees below 15, constituting 42.9 percent. This was followed by those who had between 16-30 number of employees at 22.5 percent, between 31-45 at 13.6 percent, 46-60 at 13.9 percentage and over 60 at 7.1 percent.

A large percentage of respondents had been employed for a duration between 3-6 years constituting 33.9 percentage. Followed by those employed for a duration of 2 years and below at 23.9 percent, between 7-10 years at 19 percent, between 11-14 years at 15 percent and 15 years and above at 8.2 percent. A large percentage of respondents had attained secondary school education level constituting 35 percent, followed by those who have attained tertiary education at 22.9 percent, college diploma/certificates at 19.3 percent, primary school level at 12.1 percent and university degree at 8.2 percent.

Most respondents concurred that product innovations, process innovations, marketing innovations and organizational innovations influence performance of SMEs in Bungoma County with a high aggregate mean score 3.86, 3.53, 4.098, 4.108 and a high standard deviation 1.524 ,1.197, 1.125, 1.069 respectively. The results align with the findings of López-Cabarcos *et al.,* (2019) demonstrating a positive relationship between Product innovation and firm performance, Awan, Arnold and Gölgeci (2021) that suggested that process innovation is influenced by the buyer-driven knowledge, Udriyah, Tham and Azam (2019) that indicated**,** competitive advantage was significantly and positively impacted by marketing innovation and market orientation and Waheed *et al,* (2019) that organizational innovations positively impacted human resource management practices.

Regression analysis was tested to show whether product, process, marketing and organizational innovations effect on firm performance of SMEs in Bungoma County. The findings are displayed in the model summary in Table 1.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629[a]	.806	.799	.399

Source: Research Data, (2024)

The model summary outcomes in Table 1 show the adjusted R square as .799 which demonstrates that the independent variables collectively explained 79.9 percent of all the variations in the effect of technological innovation strategies on the performance of SMEs in Bungoma County. The results also implied that 20.1 percent of all variations in the firm performance of SMEs could be contributed by other elements other than technological innovation strategies.

Table 2: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.244	4	2.561	16.044	<.001[b]
	Residual	15.644	98	.160		
	Total	25.888	102			

a. Dependent Variable: firm performance
b. Predictors: (Constant), product innovations, process innovations, marketing innovations, organizational innovations.
Source: Research Data, (2024)

The findings presented in Table 2 indicate that the regression model demonstrates statistical significance (F-statistic = 16.044, p-value = 0.001). This suggests that the relationships among product innovations, process innovations, marketing innovations, and organizational innovations have a statistically significant impact on the performance of SMEs in Bungoma County.

Table 3: Regression coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.023	.356		2.871	.005
	Product innovations	.246	.058	.023	3.242	.002
	Process innovations	.243	.063	.338	3.878	.001
	Marketing innovations	.204	.060	.332	3.428	.001
	Organizational innovations	.282	.067	.112	1.225	.001

Source: Research Data, (2024)

Table 3 above indicates holding product, process, marketing and organizational innovations constant, the firm performance of SMEs in Bungoma County would be a factor of 1.023. A single unit rise in product innovations results in a unit increase in firm performance at a factor of 0.246. A single unit rise in process innovations results in a unit rise in firm performance at a factor of 0.243. A single unit rise in marketing innovations results in a unit rise in firm performance at a factor of 0.204. A single unit rise in organizational innovations results in a unit rise in firm performance at a factor of 0.282.

Therefore, the established regression model was Y = 0.246 product innovation + 0.243 process innovation + 0.204 marketing innovation + 0.282 organizational innovation +ε

5. Conclusion

First and foremost, this investigation concludes that there may be additional variables that influence the firm performance of SMEs in addition to those examined. This was captured by the linear regression. The first objective concluded that the introduction of a production innovations significantly improved the firm performance of SMEs in Bungoma County. By adopting innovative products, SMEs can differentiate themselves in competitive markets, meet evolving customer needs, and tap into new revenue streams.

The second objective concluded that the implementation of a process innovations had a positive and significant effect on the firm performance of SMEs in Bungoma County. By adopting new or improved processes, such as automation, streamlined workflows, or advanced technologies, SMEs can increase output while minimizing resource usage. This leads to faster waste material management control, better resource allocation, and improved quality control.

The third objective revealed that the adoption of a marketing innovations had a positive and significant effect on the firm performance of SMEs in Bungoma County. By adopting creative marketing strategies such as digital

marketing, social media campaigns, or targeted promotions SMEs can improve their visibility and engage with customers more effectively. These innovations help SMEs attract new customers but also retain existing ones, boosting overall market share.

The fourth objective detailed that the implementation of organizational innovations had a positive and significant effect on the firm performance of SMEs in Bungoma County. By enhancing internal efficiency, fostering adaptability, and improving decision-making processes. Adopting innovations that include changes in good networks by enterprises, frequent interactions with other enterprises to share knowledge, and good routine practices, help SMEs become more agile and responsive to market dynamics.

5.1 Policy Recommendations

The findings recommend, SMEs should focus on creating more flexible and efficient organizational structures. This can be achieved by adopting flatter hierarchies that promote faster decision-making and better communication. Empowering employees through skill development, training, and greater autonomy can lead to a more innovative and engaged workforce. SMEs should also embrace leadership styles that encourage collaboration and adaptability, ensuring the business can quickly respond to market changes.

5.2 Limitations and Future Research Direction

The research was conducted only on SMEs in Bungoma County. The study also recommends conducting additional research to explore other countries and counties in Kenya beyond Bungoma County. In addition was based on the relationship between technological innovation strategies and firm performance. The study was suggests conducting additional studies that focus on metrics other than technological innovation strategies and firm performance. Primary data was used to conduct the study and further studies could use secondary data.

Author Contributions: All authors contributed to this research.

Funding: Not applicable.

Conflict of Interest: The authors declare no conflict of interest.

Informed Consent Statement/Ethics Approval: Not applicable.

References

Ahammad, M. F., Basu, S., Munjal, S., Clegg, J., & Shoham, O. B. (2021). Strategic agility, environmental uncertainties and international performance: The perspective of Indian firms. *Journal of World Business*, *56*(4), 101218. https://doi.org/10.1016/j.jwb.2021.101218

Awa, H. O., Ukoha, O., & Igwe, S. R. (2017). Revisiting technology-organization-environment (T-O-E) theory for enriched applicability. *The Bottom Line*, *30*(01), 2–22. https://doi.org/10.1108/BL-12-2016-0044

Awan, U., Arnold, M. G., & Gölgeci, I. (2021). Enhancing green product and process innovation: Towards an integrative framework of knowledge acquisition and environmental investment. *Business Strategy and the Environment*, *30*(2), 1283–1295. https://doi.org/10.1002/bse.2684

Bagheri, M., Mitchelmore, S., Bamiatzi, V., & Nikolopoulos, K. (2019). Internationalization Orientation in SMEs: The Mediating Role of Technological Innovation. *Journal of International Management*, *25*(1), 121–139. https://doi.org/10.1016/j.intman.2018.08.002

Callegari, B., & Nybakk, E. (2022). Schumpeterian theory and research on forestry innovation and entrepreneurship: The state of the art, issues and an agenda. *Forest Policy and Economics*, *138*, 102720. https://doi.org/10.1016/j.forpol.2022.102720

Cirera, X., & Sabetti, L. (2019). The effects of innovation on employment in developing countries: Evidence from enterprise surveys. *Industrial and Corporate Change*, *28*(1), 161–176. https://doi.org/10.1093/icc/dty061

County Government of Bungoma. (2019). *County Integrated Development Plan (2018-2022)* (p. 307). County Government of Bungoma.

Cristescu, M. P., & Nerișanu, R. A. (2021). Sustainable Development with Schumpeter Extended Endogenous Type of Innovation and Statistics in European Countries. *Sustainability*, *13*(7), 3848. https://doi.org/10.3390/su13073848

Eggers, F. (2020). Masters of disasters? Challenges and opportunities for SMEs in times of crisis. *Journal of Business Research*, *116*, 199–208. https://doi.org/10.1016/j.jbusres.2020.05.025

Fainshmidt, S., Wenger, L., Pezeshkan, A., & Mallon, M. R. (2019). When do Dynamic Capabilities Lead to Competitive Advantage? The Importance of Strategic Fit. *Journal of Management Studies*, *56*(4), 758–787. https://doi.org/10.1111/joms.12415

Ferreira, J. J. M., Teixeira, S. J., & Rammal, H. G. (2021). Introduction: Technological Innovation and International Competitiveness for Business Growth—State-of-the-Art. In J. J. M. Ferreira, S. J. Teixeira, & H. G. Rammal (Eds.), *Technological Innovation and International Competitiveness for Business Growth* (pp. 1–14). Springer International Publishing. https://doi.org/10.1007/978-3-030-51995-7_1

Fuertes, G., Alfaro, M., Vargas, M., Gutierrez, S., Ternero, R., & Sabattin, J. (2020). Conceptual Framework for the Strategic Management: A Literature Review—Descriptive. *Journal of Engineering*, *2020*, 1–21. https://doi.org/10.1155/2020/6253013

Gamage, S. K., Ekanayake, E., Abeyrathne, G., Prasanna, R., Jayasundara, J., & Rajapakshe, P. (2020). A Review of Global Challenges and Survival Strategies of Small and Medium Enterprises (SMEs). *Economies*, *8*(4), 79. https://doi.org/10.3390/economies8040079

GOK. (2023). *The Livestock (Poultry Industry) Regulations* (p. 38) [The Livestock Act].

Gregory, G. D., Ngo, L. V., & Karavdic, M. (2019). Developing e-commerce marketing capabilities and efficiencies for enhanced performance in business-to-business export ventures. *Industrial Marketing Management*, *78*, 146–157. https://doi.org/10.1016/j.indmarman.2017.03.002

Ismail, A., Ahmadi, S., Yatim, N., & Ismail, P. (2020). The impact of board characteristics on co-operative reputation from the lense of resource-based view theory (RBVT). *International Journal of Financial Research*, *11*(3), 43–61. https://doi.org/10.5430/ijfr.v11n3p43

Kaplinsky, R., & Morris, M. (2019). Trade and Industrialisation in Africa: SMEs, Manufacturing and Cluster Dynamics. *Journal of African Trade*. https://doi.org/10.2991/jat.k.190812.001

KIPPRA. (2022). *Building Resilience and Sustainable Economic Development in Kenya* (p. 278). Kenya Institute for Public Policy Research and Analysis.

Lee, K., & Yoo, J. (2019). How does open innovation lead competitive advantage? A dynamic capability view perspective. *PLOS ONE*, *14*(11), e0223405. https://doi.org/10.1371/journal.pone.0223405

López-Cabarcos, M. Á., Srinivasan, S., Göttling-Oliveira-Monteiro, S., & Vázquez-Rodríguez, P. (2019). Tacit Knowledge and Firm Performance Relationship. The Role of Product Innovation and the Firm Level Capabilities. *Journal of Business Economics and Management*, *20*(2), 330–350. https://doi.org/10.3846/jbem.2019.9590

Malik, S., Chadhar, M., Vatanasakdakul, S., & Chetty, M. (2021). Factors Affecting the Organizational Adoption of Blockchain Technology: Extending the Technology–Organization–Environment (TOE) Framework in the Australian Context. *Sustainability*, *13*(16), 9404. https://doi.org/10.3390/su13169404

Mnyazi, M., & Makhamara, F. (2023). Operational Strategies and Performance of Small and Medium Enterprises in Nairobi City County, Kenya. *International Journal of Business Management, Entrepreneurship and Innovation*, *5*(1), 1–18. https://doi.org/10.35942/jbmed.v5i1.298

Mugenda, O., & Mugenda, A. (2003). *Research Methods, Quantitative and Qualitative Approaches*. ACT.

Muthoka, R. (2022). *Strategic Alliance and Performance of Small and Medium Enterprises in Manufacturing Sector in Nairobi City County, Kenya*. Kenyatta University.

Na, Y., Kang, S., & Jeong, H. (2019). The Effect of Market Orientation on Performance of Sharing Economy Business: Focusing on Marketing Innovation and Sustainable Competitive Advantage. *Sustainability*, *11*(3), 729. https://doi.org/10.3390/su11030729

Naveed, R. T., Alhaidan, H., Halbusi, H. A., & Al-Swidi, A. K. (2022). Do organizations really evolve? The critical link between organizational culture and organizational innovation toward organizational effectiveness: Pivotal role of organizational resistance. *Journal of Innovation & Knowledge*, *7*(2), 100178. https://doi.org/10.1016/j.jik.2022.100178

Noone, B. M., Lin, M. S., & Sharma, A. (2024). Firm Performance During a Crisis: Effects of Adhocracy Culture, Incremental Product Innovation, and Firm Size. *Journal of Hospitality & Tourism Research*, *48*(1), 153–183. https://doi.org/10.1177/10963480221086846

Nyachoti, E., Machuki, V., & Oteki, E. (2018). Entrepreneurial Education in Financial Management and Performance of Youthowned Micro and Small Enterprises in Bungoma County, Kenya. *International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)*, *5*(4), 33–41.

Otieno, D., Namusonge, G. S., & Mugambi, F. (2018). Effects of Strategic Planning on the Financial Perfomance of Small and Medium Size enterprises in Professional Service Sector in Kenya. *Business Economics*.

Penrose, E. (1959). The Theory of the Growth of the Firm. In Oxford (Ed.), *Economic Foundations of Strategic Management* (3rd ed.). https://doi.org/10.4324/9781315257068-16

Rahman, N. A., Yaacob, Z., & Radzi, R. M. (2016). An Overview of Technological Innovation on SME Survival: A Conceptual Paper. *Procedia - Social and Behavioral Sciences*, *224*, 508–515. https://doi.org/10.1016/j.sbspro.2016.05.427

Saunders, M. N., Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research Methods for Business Students* (5th ed.). Pearson Education.

Schumpeter, J. (1934). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credits, Interest, and the Business Cycle*. Transaction Publishers.

Teece, D., & Pisano, G. (1994). The Dynamic Capabilities of Firms: An Introduction. *Industrial and Corporate Change*, *3*(3), 537–556. https://doi.org/10.1093/icc/3.3.537-a

Tornatzky, L. G., & Fleischer, M. (1990). *The Processes of Technological Innovation*. Lexington Books.

Udriyah, U., Tham, J., & Azam, S. M. F. (2019). The effects of market orientation and innovation on competitive advantage and business performance of textile SMEs. *Management Science Letters*, 1419–1428. https://doi.org/10.5267/j.msl.2019.5.009

Waheed, A., Miao, X., Waheed, S., Ahmad, N., & Majeed, A. (2019). How New HRM Practices, Organizational Innovation, and Innovative Climate Affect the Innovation Performance in the IT Industry: A Moderated-Mediation Analysis. *Sustainability*, *11*(3), 621. https://doi.org/10.3390/su11030621

Wei, Z., Yang, D., Sun, B., & Gu, M. (2014). The fit between technological innovation and business model design for firm growth: Evidence from C hina. *R&D Management*, *44*(3), 288–305. https://doi.org/10.1111/radm.12069

Wernerfelt, B. (1984). A resource-Based View of the firm. *Strategic Management Journal*, *5*(2), 171–180.

Wulandari, A., Suryawardani, B., & Marcelino, D. (2020). Social Media Technology Adoption for Improving MSMEs Performance in Bandung: A Technology-Organization-Environment (TOE) Framework. *2020 8th International Conference on Cyber and IT Service Management (CITSM)*, 1–7. https://doi.org/10.1109/CITSM50537.2020.9268803

Zahoor, N., Khan, Z., Meyer, M., & Laker, B. (2023). International entrepreneurial behavior of internationalizing African SMEs – Towards a new research agenda. *Journal of Business Research*, *154*, 113367. https://doi.org/10.1016/j.jbusres.2022.113367