INFLUENCE OF TECHNOLOGICAL INNOVATIONS ON PERFORMANCE OF SMALL AND MEDIUM WOMEN LED ENTERPRISES IN KENYA.

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ABSTRACT

This study is designed to explore the influence of technological innovations on performance of small and medium women led enterprises in Kenya. The Social Construction of Technology Theory was used. Mixed methods research was employed. The study target 880 SMEs owned by women entrepreneurs in Western region of Kenya who are registered by Ministry of Public Service, Youth & Gender Affairs in the region and licenced to operate businesses. A sample size of 275 women entrepreneurs was selected. Stratified random sampling was employed and data gathered by use of Questionnaires. Validity and Reliability of the instruments was tested using the test-retest methods. With the help of Statistical Package for Social Science version 26, both descriptive statistics such as the means, modes, standard deviation, variances and inferential statistics (linear regression) were used in the analysis of data. The coefficient of determination (R squared) of .637 showing that 63.7% of the variation in technological innovations was explained by performance of small and medium women led enterprises funded by women enterprise fund. There was a positive significant relationship between technological innovations and performance of small and medium women led enterprises ($\beta 1=0.847$ and p value<0.05). The study concluded that there was a positive significant relationship between technological innovations and performance of small and medium women led enterprises. An increase in technological innovations inefficiencies led to a decrease in performance of small and medium women led enterprises. The small and medium women led enterprises should embrace technological innovations in order to increase their performance.

Key words: Technological Innovations, Performance, Small and Medium, Women led Enterprises, Women Enterprise Fund.

INTRODUCTION

Nowadays, in an environment where international competition is increasing with the effects of globalization, it is difficult to make a difference in the market (Budianto et al., 2023). Companies need continuous change and renewal to gain a competitive advantage and achieve sustainable success. Small firm performance remains the ultimate indicator for business success and is well supported by empirical and theoretical models (Yahaya & Nadarajah, 2023). Firm performance is the major outcome of any enterprise, which is why both academicians and practitioners remain concerned with its determinants (Bate, Wachira, & Danka, 2023). Strategic innovation results in higher organizational performance in terms of market share growth and enhanced productivity. Entrepreneurship and small business research have gained substantial attention in recent years, especially in emerging economies where

SMEs are vital for job creation and poverty alleviation (Malesu & Syrovátka, 2025). Scholars emphasize that small firms possess unique structural and behavioral attributes, requiring tailored research methodologies to capture their dynamics effectively (Yahaya & Nadarajah, 2023).

Changes in consumer tastes and preferences across the globe require organizations to be innovative, establishing new products and business models for sustainable competitive advantage. Organizations seeking such advantages can attain it through sound technology innovations. Technology innovations allow companies to develop products and services that create differentiated market value and attract consumer attention (Bate et al., 2023; Tvedten & Wold, 2018). Innovation relates to new products or services, new production processes, marketing techniques, and organizational structures (Silvestre & Ţîrca, 2019). Ghobakhloo and Ching (2019) argue that technological innovation encompasses a series of activities such as conceptualizing new ideas, designing products, prototyping, producing in volume, marketing, and commercialization. It is a process of knowledge creation, conversion, and application. The essence of technological innovation lies in the emergence of new production techniques and their commercial application. Continuous product innovation enables SMEs to increase their competitive advantage and withstand market opposition.

An organization is considered innovative when it can transform knowledge into commercial value by increasing efficiency and effectiveness, thereby gaining competitive advantage (Kumaraswamy, Garud & Ansari, 2018). Innovation is a pre-condition for strategic success, helping firms create new businesses, add value, and reduce risk. According to Silvestre and Ţirca (2019), innovation is integral to strategy implementation and a key pillar of entrepreneurial success. It involves introducing improved processes, products, or services based on new scientific or technological knowledge and the capacity of innovative entrepreneurs. Chong, Ong, Abdullah, and Choo (2019) affirm that the sustainable development of SMEs through technological innovation is driven by the application of information technology, which stimulates industrialization. Technology has become a key component in SME growth globally, with information technology significantly impacting daily life and business operations.

Globally, studies show that technological and market innovations are critical determinants of firm performance. Yahaya and Nadarajah (2023) found that innovation, learning, and entrepreneurial mindset are vital for sustainable competitive advantage in SMEs. In India, Bate, et al. (2023) demonstrated that innovation performance is strongly associated with business outcomes, though its role in SME survival remains underexplored. In Turkey, empirical evidence from the automotive supplier industry confirms that product and process innovations significantly enhance firm performance, while non-technological innovations show weaker effects (Yao, Crupi, Di Minin & Zhang, 2020).

In African nations such as Egypt, South Africa, Ghana, and Botswana, intense competition in sectors like tea production has led to the adoption of innovation strategies to remain competitive. Successful innovation strategies result in higher performance and competitiveness

(Aliasghar et al., 2019). Innovation in the financial sector is seen as the ability to create and popularize new products. Today, innovation is driven by rapidly changing technologies, dynamic markets, and globalization, all of which intensify competition. Innovative capacity contributes to economic development and sustains competitiveness (Keiningham, et. al., 2020). In Nigeria, Ufua et al. (2021) found that technological innovation positively influences employee performance, customer retention, and overall firm success. In Ethiopia, Hanani and Zakir (2024) observed that innovation significantly impacts return on investment in the tea sector. Firms that adopt ICT as an innovation strategy outperform competitors in market positioning and profitability.

In the Kenyan context, the performance of women-led small and medium enterprises (SMEs) has been shaped by a complex interplay of financial access, infrastructural development, and innovation adoption. Despite targeted interventions such as the Women Enterprise Fund (WEF), many women entrepreneurs continue to face structural barriers including limited access to credit, high interest rates, and inadequate collateral (Gikonyo, 2022). Recent studies show that while digital technologies and mobile platforms have expanded financial inclusion, their integration into business operations remains uneven, particularly among informal and rural-based enterprises (Owino, 2023). Moreover, infrastructural gaps, such as unreliable internet connectivity and poor transport networks, have constrained market access and supply chain efficiency. Nonetheless, entrepreneurial resilience and social capital have enabled many women to navigate these challenges, with innovation increasingly recognized as a driver of competitiveness and growth. The Kenyan government's push for digitization and SME support, coupled with private sector initiatives, presents a promising avenue for enhancing the performance and sustainability of women-led enterprises in the country.

Statement of the problem

Increased global and regional competition has compelled firms to create and sustain competitive advantage through innovation. In a fast-changing environment marked by abrupt shifts in consumer preferences, technology, and market dynamics, building innovation capability has become indispensable (Malesu & Syrovátka, 2025). Innovativeness is not only a strategic concern for practitioners but has also attracted significant academic attention, particularly in examining how specific innovation dimensions affect firm performance. In Kenya, SMEs have recognized that intense industry competition demands the adoption of innovative strategies to remain viable. Recent studies affirm that successful innovation strategies lead to improved competitiveness and higher performance outcomes (Owino, 2023). Empirical studies conducted across the world have consistently shown that technological innovation positively influences SME performance. For instance, Biswas (2022) found that digital innovations, such as mobile-based financial tools and e-commerce platforms, enhanced profitability and operational efficiency among women-led enterprises. Similarly, Njogu (2023) reported that strategic innovation in product development and service delivery contributed to customer retention and market expansion. A study by Kithembe (2023) revealed that over 45% of SMEs in Nairobi had adopted new technologies, leading to measurable improvements in financial performance and business growth. These findings underscore the critical role of innovation in driving SME competitiveness and sustainability in Kenya's evolving business

landscape. Therefore, there was a gap in knowledge since none of them has been done in Kakamega County. This study aimed to investigate influence of technological innovations on performance of small and medium women led enterprises funded by WEF in Kenya.

Objectives of the study

The objectives of this study were to

To investigate influence of technological innovations on performance of small and medium women led enterprises funded by WEF in Kenya.

Theoretical Review

This study is anchored on the Social Construction of Technology (SCOT) theory, which posits that those seeking to understand the reasons behind the acceptance or rejection of a technology should examine the social context in which it occurs. According to SCOT, it is insufficient to explain a technology's success simply by claiming it is "the best"; researchers must explore how the criteria for "the best" are defined and which groups and stakeholders participate in shaping these criteria. Specifically, they must ask who defines the success criteria, why these criteria are framed in this way, and who is included or excluded in the process. Pinch et al. (2008) argue that technological determinism is a myth, that it results from looking back at the past with the belief that the current path was the only possible trajectory. SCOT is not only a theoretical framework but also a methodology, providing a set of steps and principles to analyze the causes of both technological failures and successes.

According to this theory, human actions shape technology, but do not solely determine it. Three key concepts underpin SCOT: first, interpretative flexibility, which suggests that technological artifacts are constructed and interpreted within cultural contexts; second, stabilization; and third, closure, which occurs when relevant social groups reach a consensus. During closure, both interpretive and design flexibility diminish as technologies are developed and standardized.

Formation of entrepreneurial opportunities has often been attributed to market imperfections, with widespread agreement that technological changes are among the key sources of such opportunities. Innovators tend to realize higher profits than non-innovators, as literature demonstrates a positive relationship between technological advances and firm profitability. Successfully transforming promising technologies into new processes and products remains a major challenge for enterprises because technology contributes to value creation primarily through successful commercialization. In this context, the SCOT theory guided this research in investigating the influence of technology on the performance of SMEs among women entrepreneurs funded by WEF in Kenya.

LITERATURE REVIEW

Kiggima (2018) examined the relationship between technological innovations and performance of micro and small enterprises (MSEs) in Nairobi County. Using a descriptive cross-sectional survey, data were collected from 155 MSEs across seven sectors via stratified and simple random sampling. Structured questionnaires with Likert scales were administered to owners

and analyzed using descriptive and inferential statistics. Findings showed product, process, market, and IT innovations significantly improved performance. However, the study did not isolate gender-specific innovation adoption patterns. This gap highlights the need to investigate how women-led SMEs uniquely engage with technological innovations to drive competitive advantage and sustainable growth.

Budianto et al. (2023) conducted a bibliometric study analyzed 408 scholarly documents on technological innovation in SMEs from 1990–2023. Sources included peer-reviewed articles, book chapters, and conference papers. The review revealed fluctuating but upward publication trends, with the UK, Singapore, and the US leading contributions. Most studies were authored collaboratively within national boundaries. While the study mapped global knowledge production, it lacked empirical focus on gendered innovation practices. The gap lies in the absence of targeted analysis on how technological innovation affects performance in women-led SMEs, especially in developing economies. Future research should explore gendered innovation ecosystems and their impact on enterprise success.

Kiloriti (2022) study explored the influence of technological innovation on SME performance using a descriptive survey design. Data was collected from 40 SMEs via structured questionnaires and analyzed using SPSS. Convenience sampling ensured accessibility. Findings showed marketing technologies improved operational efficiency and market reach. The study confirmed a positive correlation between innovation and performance. However, it did not examine how women-led SMEs specifically leverage technology to overcome market barriers. This gap calls for focused research on how female entrepreneurs adopt and adapt technological tools to enhance visibility, streamline operations, and expand market access in competitive environments.

Changalima, Ismail, and Amani (2025) investigated how technological absorptive capacity and e-business innovation affect performance in 179 sunflower oil SMEs in Tanzania. Using PLS-SEM, the study found absorptive capacity significantly boosts performance, with e-business innovation partially mediating this relationship. Multigroup analysis showed stronger effects in Dodoma than Singida. While insightful, the study did not explore gendered differences in technological absorption or e-business adoption. The gap lies in understanding how women-led SMEs build digital capacity and leverage e-business tools to compete. Future research should examine gender-specific barriers and enablers in technological innovation uptake within agro-processing sectors in developing economies.

Okpalaoka et al. (2022) assessed the impact of technological innovation capabilities on performance among manufacturing SMEs in Lagos using a descriptive and causal design with surveys. It examined how R&D and resource allocation influence profitability and sales growth. Findings showed innovation capabilities significantly enhance value creation. However, the study did not disaggregate data by gender or explore how women-led manufacturing SMEs navigate innovation constraints. The gap lies in understanding how female-led firms build technological learning capacity and allocate resources to innovation.

Future research should focus on gendered innovation strategies to inform inclusive industrial policy and support mechanisms for women entrepreneurs.

Kumera, Amentie and Bali (2024) examined the impact of technological innovation on firm performance in Ethiopian industrial parks, using a mixed-methods explanatory design. Data from 382 managers were analyzed via SEM, with CFA ensuring validity. Results showed innovation significantly improves performance and competitive advantage, which also mediates performance outcomes. While robust, the study did not explore gender-specific innovation pathways. The gap lies in understanding how women-led manufacturing firms use innovation to gain competitive edge. Future research should investigate how female entrepreneurs in industrial zones adopt technology to reduce costs, improve quality, and scale operations, contributing to inclusive industrial development.

Conceptual Framework

The framework depicts the relationship between dependent variable and independent variables as summarized in Figure 1. The conceptual framework for this study established the relationship between technological innovation and performance of the small and medium women led enterprises funded by WEF in Kenya.

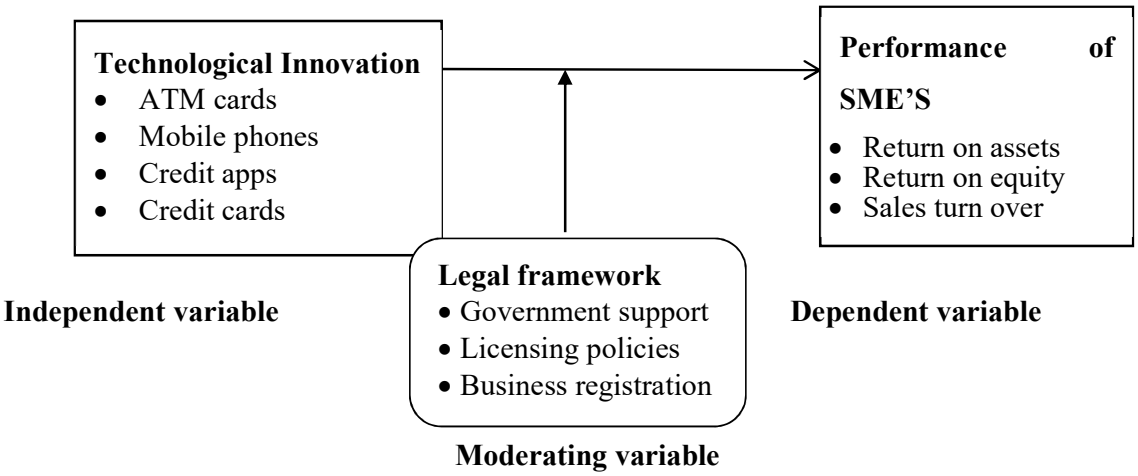

Figure 1 Conceptual framework

RESEARCH METHODOLOGY

The study adopted a mixed research design that integrated both descriptive and explanatory approaches to comprehensively address the research objectives. This research design was appropriate for this research study since it extensively tested the analysis of the relationships between variables. The study targeted 880 SMEs owned by women entrepreneurs and funded by WEF within Western region of Kenya who are registered by Ministry of Public Service, Youth and Gender Affairs in the region and licenced to operate businesses. The sampling frame consisted of the small enterprises in the services, production, agriculture, trade and manufacturing sectors in the western region of Kenya that were funded by WEF.

Yamane (1967) formula were used to determine the sample size of 275 respondents who were proportionately drawn from the counties namely; Bungoma, Busia, Vihiga and Kakamega. The number of respondents were identified from a particular stratum picked using proportional allocation. The actual respondents for the study were identified using systematic random sampling. Questionnaires were used to collect primary data because they are less costly and are not time consuming.

A pilot study of 27 respondents was done in Nyanza region, comprising of seven sub-counties, namely: Kisumu Central, Kisumu East, Muhoroni, Seme, Nyakach, Kisumu West and Nyando. This study conducted reliability tests considering Cronbach's alpha test statistic for internal consistency and scale reliability. A reliability co-efficient of $\alpha \geq 0.7$ were considered adequate. Content validity was adopted for this study. Content validity was assessed by testing and/or asking the opinion of expert judges in the field or asking several questions about the instrument (Olanipekun, Ahmed, Opoku & Sutrisna, 2022).

Statistical Package for Social Sciences (SPSS) versions 26.0 were used to code, enter and analyse data. Data was analysed using descriptive and inferential analysis. Descriptive analysis involves the calculations of frequency distributions, percentages, mean, mode and standard deviation. Linear regression models were employed in the study to test the relationship between the independent variables and dependent variables.

RESEARCH RESULTS

Based on the descriptive statistics provided, the study examined the extent to which technological innovations are integrated into small and medium women-led enterprises. Using a 5-point Likert scale, mean scores between 3.41 and 4.20 indicate agreement, while scores above 4.21 reflect strong agreement. A standard deviation above 0.5 suggests homogeneity in responses, indicating shared perceptions among respondents. Respondents strongly agreed that their information systems are synchronized with technological advancements, as reflected by the highest mean score of 4.34 and a standard deviation of 1.06. This suggests that many women-led enterprises are aligning their systems with current digital trends, although the variation in responses indicates differing levels of integration.

Access to necessary technologies also received strong agreement (mean = 4.22, SD = 1.14), highlighting that most respondents have the tools required to operate competitively. However, the relatively high standard deviation suggests disparities in technological access across different enterprises. Mobile phone usage in business was affirmed with a mean score of 3.43 and a standard deviation of 0.74, indicating widespread adoption of mobile technology for operational tasks. Similarly, access to internet connectivity (mean = 3.42, SD = 0.72) and confidence in using technology (mean = 3.41, SD = 0.74) were positively rated, showing that digital literacy and connectivity are well established.

Access to computers and online visibility of products/services both recorded mean scores of 3.37, with standard deviations of 0.76 and 0.78 respectively. These results suggest moderate agreement, indicating that while many women entrepreneurs have digital tools and online

platforms, some still face limitations. Understanding how to use firm-related information was rated moderately (mean = 3.25, SD = 0.65), pointing to a need for enhanced data literacy and strategic information use.

The overall mean score of 3.60 indicates general agreement that technological innovations are present and beneficial in women-led enterprises. The overall standard deviation of 0.824 reflects a relatively homogeneous response pattern, suggesting that most respondents share similar experiences regarding technology adoption and its role in business performance.

Table 1: Technological Innovations in small and medium women led enterprises

Technological Innovations	**Mean**	**Std Dev**
I have access to computers	3.37	0.76
I have access to internet connectivity	3.42	0.72
I use mobile phones in my business	3.43	0.74
I know what to do with information on my firm as regards its usage	3.25	0.65
I am confident of technological I use	3.41	0.74
Information systems in synchronization with technological advancements	4.34	1.06
My services/products are accessed online	3.37	0.78
I have access to the necessary technologies	4.22	1.14
Overall mean	3.60	0.824

Performance of small and medium women led enterprises

The respondents were requested to indicate their level of agreement on performance of small and medium women led enterprises in a five-point Likert scale. The descriptive analysis such mean, standard deviation, frequencies and percentage were used to summarize the study findings as shown in Table 2.

Table 2 Performance of small and medium women led enterprises

	Mean	Std. Dev
My ROE has increased for the last 3 years	2.89	1.17
My average pre-tax profits have increased for the last 3 years	2.75	1.17
My return on assets have increased for the last 3 years	2.92	1.32
The number of employees in our business have increased for the last 3 years	2.50	1.40
The sales turnover of our business has increased for the last 3 years	2.98	1.48
The use of ICT has increased the pre-tax profits significantly for the last 3 years	1.69	1.34
The use of ICT has increased the ROA of our business significantly for the last 3 years	1.61	1.25
The use of ICT has increased the ROE of our business significantly for the last 3 years	1.62	1.27
Overall mean	**2.37**	**0.81**

The study examined the performance of small and medium women-owned enterprises funded by the Women Enterprise Fund (WEF) in Kenya through descriptive statistics, focusing on mean scores and standard deviations. Using a 5-point Likert scale, the analysis interpreted responses where a mean score between 2.6–3.40 indicates moderate agreement, and a score between 1.81–2.60 reflects disagreement. A standard deviation above 0.5 signifies homogeneity in responses, indicating that respondents had a shared understanding of the issue. Respondents moderately agreed that their business sales turnover had increased over the last three years, as reflected by the highest mean score of 2.98 and a standard deviation of 1.48. This suggests that while some enterprises experienced growth in sales, the wide dispersion in responses indicates varied performance across the sample.

Return on assets (ROA) also showed moderate improvement, with a mean score of 2.92 and a standard deviation of 1.32. This implies that asset utilization has improved in some businesses, although the high standard deviation points to inconsistent experiences among respondents. Return on equity (ROE) was similarly rated, with a mean score of 2.89 and a standard deviation of 1.17. This indicates moderate agreement that equity returns have improved, though not uniformly across all enterprises.

Average pre-tax profits recorded a mean score of 2.75 and a standard deviation of 1.17, suggesting moderate growth in profitability. However, the variation in responses reflects differing financial outcomes among the women-led SMEs. The number of employees in the businesses was rated with a mean score of 2.5 and a standard deviation of 1.4, indicating

disagreement. This suggests that most enterprises did not significantly expand their workforce, and the high standard deviation reveals substantial differences in employment trends.
The use of ICT in enhancing financial performance was rated lowest across all indicators. Specifically, the use of ICT to increase sales turnover had a mean score of 1.69 and a standard deviation of 1.34, indicating strong disagreement and high variability. Similarly, the use of ICT to improve ROE and ROA recorded mean scores of 1.62 and 1.61 respectively, with standard deviations of 1.27 and 1.25. These results suggest that respondents did not perceive ICT as a significant contributor to financial performance, and experiences varied widely.

The overall mean score across all variables was 2.37, falling within the "disagree" range. This indicates that, on average, respondents did not perceive substantial performance improvements in their enterprises over the last three years. The overall standard deviation of 1.30 confirms homogeneity in responses, suggesting that most respondents shared similar views regarding the limited growth and impact of ICT on their business performance. These findings highlight the need for targeted interventions to enhance profitability, asset efficiency, and digital integration among WEF-funded women-led enterprises in Kenya.

Regression Analysis

Based on the regression model and table 3 below, the coefficient of determination (R squared) of .637 showing that 63.7% of the variation in technological innovations was explained by performance of small and medium women led enterprises funded by women enterprise fund. The adjusted R square of .636 depicted that all the technological innovations in exclusion of the constant variable explained the variation in performance of small and medium women led enterprises by 63.6%. The remaining percentage was explained by other factors excluded from the model. The standard error of estimate (.489) shows the average deviation of the independent variables from the line of best fit.

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798[a]	.637	.636	.48904

a. Predictors: (Constant), Technological innovations

The regression model with technological innovations as a predictor was significant (F=379.62, p value =0.000) shows that there is a significant relationship between technological innovations and performance of small and medium women led enterprises and at least the slope (β coefficient) is not zero (Table 4). Therefore, it implied that there is a significant relationship between technological innovations and performance of small and medium women led enterprises.

Table 4 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.790	1	90.790	379.616	.000[b]
	Residual	51.659	216	.239		
	Total	142.450	217			

a. Dependent Variable: Performance of women led enterprises

b. Predictors: (Constant), Technological innovations

The study hypothesized that there are no significant influence technological innovations and performance of small and medium women led enterprises in Kenya. The study findings depicted that there was a positive significant relationship between technological innovations and performance of small and medium women led enterprises (β_1=0.847 and p value<0.05) as summarized in Table 5. Therefore, a unit increase in technological innovations led to an increase in performance of small and medium women led enterprises by 0.847. Since $p < 0.05$, the null hypothesis was rejected.

Table 5 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.470	.103		4.559	.000
	Technological innovations	.847	.043	.798	19.484	.000

a. Dependent Variable: Performance of women led enterprises

Technological innovations have had a demonstrable impact on the performance of small and medium women-led enterprises, particularly in enhancing operational efficiency, market access, and financial inclusion. This aligns with Gitonga and Moyi (2019), who noted that while technology is increasingly available to SMEs in Kenya, much of it remains underutilized or misaligned with market demands. Recent literature reinforces this view. For instance, Biswas (2022) found that mobile-based financial tools significantly improved access to working capital for women entrepreneurs in West Africa, enabling business expansion and resilience. Similarly, Shaikh, Alamoudi, Alharthi and Glavee-Geo (2023) demonstrated that mobile banking and credit apps enhanced financial autonomy and reduced reliance on informal lending among women-owned microenterprises in Bangladesh. Fernando and Disanayaka (2024) emphasized that ATM cards and digital banking platforms helped women entrepreneurs build credit histories and improve financial planning, directly influencing business scalability. Regionally, Owino (2023) observed that Kenyan women-led SMEs leveraging mobile phones and e-commerce platforms reported increased sales turnover and customer retention. These findings collectively affirm that technological advancement, whether through mobile phones, credit apps, or digital banking has become a cornerstone of SME competitiveness and sustainability in the modern economy.

Moderating role of legal regulation framework on technology innovation and performance of women led enterprises

To test moderation, the study introduced interaction terms between technological innovations and the legal regulation framework. In Model 5, the interaction term (LRFTI) had a coefficient of 0.082 and a p-value of 0.094, which was not statistically significant at the 5% level. This led to failure to reject hypothesis H05c, indicating that the legal framework does not significantly moderate the relationship between technological innovations and SME performance. Although the interaction slightly increased the model's explanatory power (R^2 rose from 0.745 to 0.749), the effect was not strong enough to be conclusive.

In the full interaction model, the direct effect of technological innovations diminished ($\beta = 0.048$, $p = 0.830$), while the interaction term LRFTI became significant ($\beta = 0.166$, $p = 0.009$). This suggests that under certain conditions, the legal framework may positively moderate the effect of technological innovations on performance. However, the inconsistency across models implies that the moderating role is context-dependent and may be influenced by other interacting variables such as regulatory enforcement, digital infrastructure, or compliance costs.

Conclusion

The study concludes that the use of ICT to improve pre-tax profits, ROA, and ROE all scored below 1.70, indicating strong disagreement that technology has significantly boosted financial performance. This suggests a disconnect between technological adoption and tangible financial outcomes. Despite high levels of access to technology, the overall performance of women-led SMEs remained low (mean = 2.37), with limited growth in profits, assets, or employment. This indicates that while technology is present, it is underutilized or misaligned with strategic business goals. The findings highlight a need for targeted capacity-building, improved digital literacy, and supportive regulatory environments that translate technological access into measurable business gains. Without these, the transformative potential of innovation remains unrealized for many women entrepreneurs. The study found a strong and statistically significant relationship between technological innovations and the performance of women-led SMEs. Regression analysis revealed that technological innovations alone explained 63.7% of the variance in enterprise performance ($R^2 = 0.637$), with a beta coefficient of 0.847 ($p < 0.000$), indicating that a unit increase in technological innovation leads to a substantial improvement in performance.

Recommendation

Based on the result obtained, the study recommends that targeted digital literacy programs be implemented to help women entrepreneurs strategically apply technological innovations for financial growth. Although access to ICT tools is high, their impact on profitability, ROA, and ROE remains minimal, indicating underutilization. Sector-specific digital solutions should be aligned with business needs, and regulatory frameworks must be streamlined to support technology adoption. Enhancing digital infrastructure, simplifying compliance, and promoting inclusive innovation ecosystems will enable women-led SMEs to convert technological access

into measurable performance gains, fostering sustainable growth and competitiveness in Kenya's evolving entrepreneurial landscape.

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