International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347 -6435 (Online)), Volume 15, Issue 1, January 2026)

Minority Entrepreneurship, Economic Development and Institutions: The Case Study of Sub-Saharan Africa Women Entrepreneurs

Dr. Isaiah Joseph[1], Dr. Peter Ogwuche[2], Dr. Jacintha Odonye[3]

[1]*Global Banking School, London*
[2]*Arden University, Birmingham*
[3]*Elizabeth school of London, London*

Abstract

Purpose: **this study investigates how technological innovations, institutional structures, and economic strategies affect entrepreneurial sustainability among women in SSA. It aims to comprehend how all these variables work together to affect sustainable entrepreneurial outcomes, especially in environments in which complex challenges are prominent.**

Design/methodology/approach: **This study adopts quantitativesurvey method, using a cross-sectional research design in order to capture 331 entrepreneurs in Ghana, Kenya and Nigeria through an online structured closed-ended questionnaire. The multiple regression analysis was employed.**

Findings: **The study findings reveal that technological innovations, institutional structures, and economic strategies have positive significant effect on entrepreneurial sustainability among women entrepreneurs in SSA.institutional structures is found to be the most important element showing the highest level underscoring the fundamental function of encouraging laws and fair structures in promoting the sustainability of entrepreneurship.**

Practical implications: **The results indicate that policymakers should invest in technology infrastructure, encourage economic methods that improve market access, and give top priority to the creation of inclusive institutional structures among women in SSA. These have the potential to alleviate systemic disparities and promote sustainable entrepreneurial environments.**

Originality/value: **the empirical evidence of the interaction of technological innovations, institutional structures, and economic strategies in promoting entrepreneurial sustainability among women in SSA, this study adds to the body of literature. It provides a detailed understanding of how to use these elements to advance fair economic growth.**

Keywords: **minority entrepreneurship, economic development, economic strategies, institutional strategies, technological innovations, entrepreneurial sustainability**

Paper type: **Research Paper**

I. INTRODUCTION

Entrepreneurship is a critical component of economic resilience especially in Sub-Saharan Africa, where poverty rates often exceed 40% and formal employment opportunities are scarce. Women entrepreneurs stand out as vital change agents that drive the growth of the unorganised sector and community development upward in a challenging climate(Allayorava et al., 2025). Recent studies show that 58% of female entrepreneurs in SSA operate informally, navigating a variety of markets while facing social and governmental constraints that severely limit their access to resources(Raimi et al., 2023).

In Nigeria, women-owned businesses are much less likely than male-owned businesses to be granted bank loans, which contributes to the ongoing financial instability. Research Omotosho et al. (2024)shows that gender-equal access boosts local GDP by almost 6% annually, which explains why the gap still exists. Women's entrepreneurship accelerates equal growth, but institutional designs provide significant challenges. Ojediran and Anderson (2020) highlight restrictive land inheritance laws, but they barely touch on the profound consequences of digital marginalisation. More than 200 million women in SSA are unable to use fintech and e-commerce platforms because they lack mobile internet connection.

Institutional structures that subtly and dramatically restrict women's involvement in entrepreneurial leadership roles, are often ignored. In a highly competitive market, time poverty resulting from unpaid care giving responsibilities severely limits women's capacity to expand their enterprises (Rubio-Andrés et al., 2024). This study was motivated by the urgent need to re-examine institutional structures through the gender perspective and pinpoint shared mechanisms that perpetuate inequality. The purpose of this study is to access minority entrepreneurship, economic development and institutions of sub-Saharan Africa women entrepreneurs and then offer adaptable solutions that take local circumstances into account.

Academics are becoming more interested in women entrepreneurship and institutional theory as governments are able to eliminate structural obstacles and access the billions of dollars in yearly financial opportunities that equal representation of women in entrepreneurship offers. Studies that incorporate Senegalese and Ugandan women's participation perspectives aid in dispelling misconceptions surrounding African trade. Hence, the objective of this study is to examine the effect of institutional structures, technological innovations and economic strategies on entrepreneurial sustainability and then offer adaptable solutions that take local circumstances into account.

The main research question for this study is as follows:

RQ: to what extent do institutional structures, technological innovations and economic strategies affect entrepreneurial sustainability?

To answer the question this study tested the hypothesis; institutional structures, technological innovations have no significant effect on economic strategies on entrepreneurial sustainability.

II. Literature Review

2.1. Conceptual Review

2.1.1 Institutional Structures, Technological Innovations, and Economic Strategies

The conceptual evidence from literature showed that there is significant interaction between institutional structures, technological innovations, economic strategies and entrepreneurial sustainability in Sub-Saharan Africa's setting (Pauceanu et al., 2021). Despite a variety of external factors, institutional structures have a significant impact on entrepreneurial sustainability, biased enforcement, the legal system are somewhat severely disadvantage to women(Raimi et al., 2023). According to Ramli and Williams, (2024) land inheritance laws effectively prevent women from possessing collateral, which limits their access to finance. Informal institutions that significantly restrict women's participation include cultural norms that place a higher priority on home duties than economic agency.

While some scholarsNgobese and Ramraj-Beharry (2025), promote legislative interventions aiming at financial inclusion, others concentrate on digital literacy projects that affect million of women in SSA(Alhammadi & Rahman, 2025). Also, significant socio cultural issues include gender roles and how society views women in business. Women's business pursuits are significantly impacted by social expectations since they affect their daily schedules and the resources at their disposal(Ojediran & Anderson, 2020). The question of whether to initiate small-scale cultural reforms or prioritise major legislative changes is still up for debate.

Equitable institutions promote entrepreneurship through complex mechanisms that transcend the surface-level forces driving the fast advancement of the modern world(Mkalama & Ouma, 2025). Critics point out that a vicious circle of dependency is created when underdevelopment fuels shaky institutions that stifle entrepreneurship. SSA women are therefore inadequately represented in policymaking, which underscores gender strategies that are not economically sustainable (Cummings & Lopez, 2023).

Long-term entrepreneurship and economic success depend on an understanding of the fundamentals of institutional structures, economic strategies, and technological innovations. The literature has extensively examined these ideas, especially as it relates to encouraging sustainable business practices(Bhoyar et al., 2025). Economic strategies are essential for supporting entrepreneurial endeavours because they ensure the distribution of resources and financial stability. Adequate economic practices foster an atmosphere that supports company expansion include market diversification, investment incentives, and finance accessibility(Tuncer & Korchagina, 2024). According to researchers, strategic economic planning boosts entrepreneurial resilience and lessens market inefficiencies (Yang, 2024). Balancing environmental objectives and profitability, small businesses employing green economic techniques have shown enhanced sustainability outcomes (Rashid, 2019).

Since institutional structures have an impact on the legal and cultural contexts in which entrepreneurship operates, they are equally significant. Governmental regulations and legal frameworks impact access to resources(Zahrani, 2022). However, social expectations and cultural norms that either question or reinforce societal roles have an effect on entrepreneurial sustainability(Rosário & Figueiredo, 2024). Research indicates that supportive structures for minority entrepreneurs, particularly women in developing countries, promote creativity and reduce obstacles.

Technological innovations expand market penetration, reduce costs, and boost productivity and support successful entrepreneurship. Using digital tools and platforms has changed access to global markets and enabled business owners to adopt sustainable management practices(Rubio-Andrés et al., 2024). According to Tolossa et al. (2024), technology-enabled approaches are crucial to achieving entrepreneurial sustainability. Adoption of technology is still unequal, though, because rural areas are not digitally connected. Economic policies, technological developments, and institutional frameworks must cooperate to support sustainable entrepreneurship. When combined, these ideas eliminate systemic barriers and promote innovation and long-term economic viability(Bhoyar et al., 2025).

2.1.2 Entrepreneurial Sustainability

Entrepreneurial sustainability is defined as the ability of businesses to yield a significant outcome and operates in such a way that it generates profitability, job creation, corporate growth, and long-term viability(Rosário & Raimundo, 2024). Even though revenue growth and other similar metrics are used to measure success, sustainable organisations are resilient to changes in the economy(Bhoyar et al., 2025).Regarding the causal relationships between entrepreneurial development, scholars are very different. Others point out that development requires major institutional reforms that give marginalised populations more power, while others argue that entrepreneurship drives rapid economic growth in a variety of industries(Rosário et al., 2022). Cummings and Lopez (2023) for female leaders significantly increase the number of female entrepreneurs in countries with comparable favourable policies. Recently, scholars such as O'Brien and Cooney (2024)argued thatthough standardising institutional impacts yet social capital and trust networks differ by country.

Scholarly perspectives highlight that economic advancement requires reframing success beyond measurements to incorporate women's social autonomy, and minority entrepreneurship in SSA only thrives when institutional injustices are addressed(Owusu-Kwarteng et al., 2025). Even thoughAkpuokwe et al. (2024) and Allayorava et al. (2025)mostly concur on capability-centred frameworks, there are noticeable differences in how they are implemented. Although digital financial services are praised for promoting equality, they frequently serve to further entrench socioeconomic disparities that affect rural women who lack access to digital identification.

2.2 Theoretical Review

Economic strategies, technological innovations, and institutional structures all interact in intricate manners that support minority entrepreneurship, propel business growth, and eventually lead to a sustainable business. Based on institutional theory (North, 1990) and human capital theory (Becker, 1964), this study investigates how these ideas affect business environments for minority entrepreneurs. Economic strategies that incorporate fair capital access and resource allocation are essential. According to research, institutional barriers that hinder minority entrepreneurs' success include unequal income distribution and limited financing availability (Allayorava et al., 2025). According to(Mayanja et al., 2025), programs like the State Small Business Credit Initiative and the New Markets Tax Credit aim to lessen these disparities by enhancing financial inclusion. Additionally, economic tactics that help minorities thrive in competitive contexts include market diversification and entrepreneurial training.

Institutional Structures, such as formal and informal institutions, laws and policies, influence entrepreneurial ecosystems. The significance of educational institutions in building networks and skills is emphasised by(Mayanja et al., 2025). Inclusive ecosystems require culturally sensitive policies that rectify historical injustices and ensure equitable access to resources for entrepreneurial growth (Ngobese & Ramraj-Beharry, 2025b). Institutional gaps, particularly biased financing systems, often maintain hurdles, necessitating reforms such as corporate procurement agreements and federal lab partnerships (Mayanja et al., 2025; Ngobese & Ramraj-Beharry, 2025b). Technological innovations, such as digital tools and access to R&D, are crucial for the expansion of minority-owned businesses. Integrating technology into business models, accelerators that target minority entrepreneurs boost competitiveness, despite the fact that digital inequities persist in rural and low-income areas (Ramli & Williams, 2024).

2.2.1 Theoretical Framework

This study employs an integrated theory where economic strategies and institutional structures reduce systemic barriers. Innovation in technology drives scalability and market penetration. These elements work together to increase the sustainability of entrepreneurship, as seen by the growth of income, jobs, and company lifespan (Brogan & Dooley, 2024; Mayanja et al., 2025). The theoretical framework states that fair policies, money, and technology support inclusive ecosystems enable minority business owners to achieve sustainable growth, hence advancing broader economic development goals.

2.3 Empirical Review

Alhammadi and Rahman (2025), used prior experience as a mediator to examine how financial bootstrapping among UAE women entrepreneurs is influenced by growth aspirations, motivations, and exposure to family businesses. Prior family exposure and growth ambitions have a beneficial impact on financial bootstrapping, mediated by prior experience, according to a quantitative survey of 318 female business owners. The results highlight the influence of experience learning on financial strategy development in the understudied setting of the United Arab Emirates. Creating mentorship programs that make use of family networks and providing specialised training to improve entrepreneurial abilities are among the suggestions. Women's access to financing can be improved by addressing cultural and digital economic hurdles through such efforts, which would support the creation of sustainable businesses.

According to the report, women entrepreneurs must get support tailored to their particular environment to overcome structural obstacles.

Cummings and Lopez (2023), used a feminist critical discourse analysis to investigate the lived experiences of women entrepreneurs in rural Ethiopia, thereby critically analysing the prevalent narrative of "entrepreneurship for development." The study presents a counter-narrative by analysing data from 32 interviews and 16 focus group discussions using the 5M and 8M frameworks. The results show that although being an entrepreneur can lead to financial gains, self-determination, and social recognition, it can also present problems including stress, safety worries, a small social circle, and debt anxiety. The study concludes that the grand narrative frequently ignores these detrimental effects and suggests that development experts and politicians take a more nuanced approach, taking into account the intricate realities of women's entrepreneurship.

Ramli and Williams (2024), examined the effects of enterprise policies intended to assist ethnic groups on Malaysian entrepreneurship. Affirmative action programs intended to lessen interethnic inequities unintentionally make them worse, according to qualitative interviews with entrepreneurs and officials. These strategies produce parallel institutional environments in which non-targeted groups are institutionally excluded while targeted groupslike Bumiputrasare granted institutional privileges. This dynamic exacerbates inequality by giving some people advantages while harming others. According to the study's findings, despite their good intentions, these policies make the conflict between privilege and exclusion worse. It suggests that to guarantee equal chances for all ethnic groups and reduce unforeseen differences in entrepreneurial performance, authorities should embrace more inclusive approaches to enterprise regulation.

Brogan and Dooley (2024), investigated how networks within cooperatives promote social and economic advantages, this study applies social capital theory to the study of artisan cooperatives' effects on women in Sub-Saharan Africa. A phenomenological technique was used, which included cooperative document analysis and semi-structured interviews with the Chief Entrepreneur Founders of artisan cooperatives. The results underscore three major themes: the value of collaborations, the advantages of being a member of a cooperative, and the revolutionary development that women and their communities have undergone.

Through increased social recognition and financial security, women reported feeling more empowered. According to the study's findings, artisan cooperatives are excellent examples of sustainable work, and similar areas can emulate them to improve community development, economic growth, and gender equality.

Mayanja et al., (2025) examined how self-organization and entrepreneurial learning behaviours mediate the relationship between the sustainability of women-owned microbusinesses in Eastern Uganda and entrepreneurial networking. Data were analysed using Smart PLS 3.3.3 and partial least squares regression on a sample of 518 female entrepreneurs. The results show a clear connection between enterprise sustainability, self-organization, entrepreneurial learning behaviours, and entrepreneurial networking. Networking and learning behaviours are mediated by self-organization, and sustainability and self-organization are mediated by entrepreneurial learning behaviours. The study concludes that supporting women's microbusinesses requires creating self-organised networks and improving learning behaviours. To strengthen these mediating elements, specific training programs and mentorship initiatives are among the recommendations.

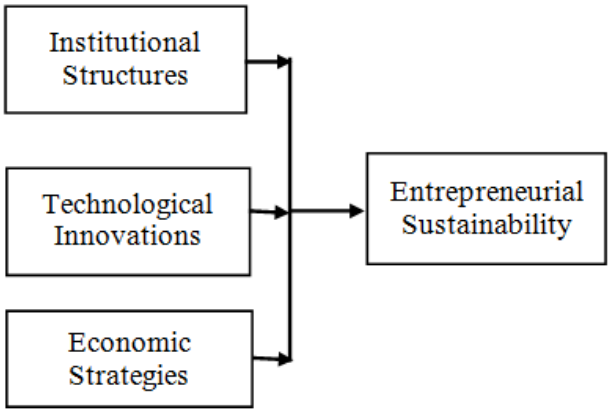
Bhoyar et al.2025), investigated how innovation and entrepreneurship may transform education to meet the demands of 2024 and beyond. To educate people about a world that is changing quickly, it assesses how educational institutions might encourage creativity and entrepreneurial mindsets. The study looks at quality standards, strategic approaches, and the changing requirements of teachers and students from a broad perspective. The results emphasise how crucial it is to combine academic rigour with real-world applications to create entrepreneurial education programs that successfully solve societal issues. The report ends with suggestions for constructing cutting-edge learning settings that foster innovation, entrepreneurship, and sustainable development, especially in emerging nations like India where funding and policy support are growing.

2.4 Conceptual Model

This conceptual model connects the dependent variable entrepreneurial sustainability and independent variables economic strategies, institutional structures, and technological innovations. The model examines the ways in which these constructs interact to influence the findings of minority entrepreneurs, especially in Sub-Saharan Africa.

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347 -6435 (Online)), Volume 15, Issue 1, January 2026)

Independent Variables



Dependent Variables

Figure 1: Conceptual Mode

III. METHODOLOGY

This study adopted a quantitative research approach to critically examine the relationships among women entrepreneurs in Sub-Saharan Africa (SSA).The methodology prioritises statistical accuracy and generalis ability in order to identify relevant trends in many different types of environments. A cross-sectional survey methodology which allows the collection of numerical data from a geographically dispersed sample was employed. The design facilitates hypothesis testing to examine the effect of economic strategies, institutional structures, and technological innovations on entrepreneurial sustainability. The study focusses on 331 entrepreneurs from Ghana, Kenya, and Nigeria chosen for their diverse entrepreneurial ecosystems and institutional environments. The sample frame includes both formally registered firms and informal enterprises. To gather information on important variables, a structured closed ended online questionnaire was employed. Using a 5-point Likert-Scale items. Reliability and clarity were established by pilot testing with 30 participants in Lagos. Multiple regression analysis is used to assess how well institutional and sociocultural factors predict entrepreneurial sustainability, which is operationalised as revenue growth and job creation. While factor analysis reduces multicollinearity across institutional variables, ANOVA tests identify regional differences. Calculations are performed using SPSS version 27 software, and statistical significance is defined as $p < 0.05$(Ling et al., 2024).

IV. RESULT

4.1 Demographic Data Interpretation (Table 1)

The demographic data (Table 1) provides a comprehensive picture of the respondents, including gender, age, educational qualification, type of business ownership, years of operation, business location, and sector.

Table 1
Demographic Information of Respondents

		Frequency	Percent
Gender	Male	131	39.6
	Female	200	60.4
	Total	**331**	**100.0**
Age	18-25	39	11.8
	26-35	135	40.8
	36-45	101	30.5
	46-55	56	16.9
	Total	**331**	**100.0**
Educational Qualification	No Formal Education	17	5.1
	Primary	60	18.1
	Secondary	84	25.4
	Tertiary	170	51.4
	Total	**331**	**100.0**
Type of Business Ownership	Sole Proprietorship	111	35.5
	Partnership	128	38.7
	Cooperative	62	18.7
	Limited Liability	30	9.1
	Total	**331**	**100.0**
Years of Business Operation	Less than 1 Year	63	19.0
	1-3 Years	73	22.1
	4-6 Years	153	46.2
	7-10 Years	42	12.7
	Total	**331**	**100.0**
Business Location	Urban	213	64.4
	Rural	118	35.6
	Total	**331**	**100.0**
Business Sector	Agriculture	73	22.1
	Retail	69	20.8
	Services	73	22.1
	Manufacturing	86	26.0
	Technology	30	9.1
	Total	**331**	**100.0**

Source: *Research Field Survey, 2025*

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347 -6435 (Online)), Volume 15, Issue 1, January 2026)

According to the gender distribution of responses, male make up 39.6% of the sample, while female make up the majority (60.4%), with a focus on female entrepreneurs. The study's emphasis on understanding the dynamics of gender in entrepreneurship aligns with this distribution. According to the respondents' age distribution, a youthful entrepreneurial demography is indicated by the majority of respondents (71.3%) being between the ages of 26 and 45. Given that it frequently denotes a time of high energy and risk tolerance, this age group is critical for entrepreneurship. The majority of respondents (51.4%) have tertiary degrees, according to the respondents' distribution by educational level, indicating a highly educated pool of potential entrepreneurs. Access to resources and company management abilities can be improved with this degree of schooling.According to the respondents' distribution by type of business ownership, partnerships account for 38.7% of all firm ownership, with sole proprietorships coming in second at 35.5%. This suggests a predisposition for joint endeavours, perhaps as a result of pooling resources and sharing risk. The distribution of responses by Business Sector reveals that Manufacturing is the largest sector (26.0%), followed closely by agriculture, retail, and services (each around 20–22%). The distribution of responses by Business Location demonstrates that the majority of businesses are located in urban areas (64.4%), which may reflect better access to markets, infrastructure, and resources compared to rural settings. Nearly half of the businesses have been in operation for 4–6 years (46.2%), indicating a mix of established and newer ventures and suggesting that many businesses are past the initial start-up phase but still in their growth stage.

Table 2
Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error Estimate
1	.964[a]	.928	.928	.27330

a. Predictors: (Constant), Economic Strategies, Institutional Structures, and Technological Innovations

b. Entrepreneurial Sustainability

Source: *Researcher's Field Survey, (2025)*

Regression analysis in Table 2, reveals a significant relationship between the dependent variable, entrepreneurial sustainability, and the predictors of economic development, institutions, and minority entrepreneurship economic strategies, institutional strategies, and technological innovations among women in SSA.

The Model Fit (R-Square and R) shows a strong positive relationship between the determinants of entrepreneurial sustainability, economic development and institutions, and minority entrepreneurship as indicated by the model's high correlation coefficient (R = 0.964). According to the R-Square value of 0.928, the predictors account for roughly 92.8% of the variation in entrepreneurial sustainability. The robustness and effectiveness of the model in capturing the dynamics determining entrepreneurial sustainability are demonstrated by its excellent explanatory power.

The adjusted R-Square of 0.928 indicates that the model's explanatory power remains high even after controlling for the number of factors. This suggests that the integration of technological innovations, institutional structures, and economic strategies is justified and significantly advances our understanding of the sustainability of entrepreneurship. The standard error, which is 0.27330, indicates the average difference between the observed and expected values of entrepreneurial sustainability. In this instance, the standard error is large, indicating significant data variability, even though a lower standard error indicates more accurate predictions.

Table 3
Regression showing the significance of each predictor to Entrepreneurial Sustainability

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	316.574	3	105.525	1412.782	.000[b]
	Residual	24.425	327	.075		
	Total	340.999	330			

a. Predictors: (Constant), Economic Strategies, Institutional Structures, and Technological Innovations

b. Entrepreneurial Sustainability

Source: *Researcher's Field Survey, (2025)*

The ANOVA results in Table 3, evaluate the regression model's overall importance in elucidating entrepreneurial sustainability among women in SSAusing the predictors technological innovations, institutional structures, and economic strategies. A statistically significant model ($p < 0.001$) is confirmed by the incredibly high F-statistic ($F = 1412.782$) and its corresponding p-value (.000).

International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347 -6435 (Online)), Volume 15, Issue 1, January 2026)

Accordingly, a significant amount of the variance in entrepreneurial sustainability may be explained by the combined influence of the variables.Supporting the model's high explanatory power, the Regression Sum of Squares (316.574) makes up 92.8% of the Total Sum of Squares (340.999), which is in line with the R^2 value of 0.928 in Table 2.Unexplained variance is represented by the Residual Sum of Squares (24.425), which is quite small in relation to explained variance, hence confirming the robustness of the model.

Table 4
Contribution of each predictor to Entrepreneurial Sustainability

Model		Unstandardized Coefficient		Standardized Coefficient	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.106	.194		5.715	.000
	Institutional Strategies	.268	.049	.328	5.447	.000
	Technological Innovations	.188	.055	.193	3.399	.001
	Economic Strategies	.259	.053	.273	4.936	.000

Source: *Researcher's Field Survey, (2025)*

Regression analysis in Table 4,examines the distinct ways that economic strategies, technological innovations, and institutional structures all affects to entrepreneurial sustainability among women in SSA. According to the coefficient of 0.268, when all other factors are held constant, entrepreneurial sustainability rises by 0.268 units for every unit increase in institutional strategies. The standardised coefficient of 0.328 indicates that, out of all the factors, Institutional Strategies have the most significant effect. This implies that fostering institutional environments that encourage entrepreneurship is essential to improving its sustainability.

According to the coefficient of 0.188, there is a 0.188-unit improvement in entrepreneurial sustainability for every unit rise in technological innovations. Technology has a significant effect on entrepreneurial sustainability, as evidenced by the standardised coefficient (0.193), which is smaller than institutionalstructures but still substantial.Economic strategies also have a significant effect on entrepreneurial sustainability, as indicated by the coefficient of 0.259. Economic strategies are significant for long-term entrepreneurial sustainability, as indicated by the standardised coefficient (0.273), which is near to that of institutional structures.The statistical significance of each predictor ($p < 0.001$ or $p = 0.001$) attests to their significant effect on entrepreneurial sustainability. This emphasises how crucial it is to improve entrepreneurial sustainability through a multifaceted strategy that combines institutional structures, technological innovations, and economic strategies. Hence, the null hypothesis was rejected.

V. Discussion

To answer the research question raised, this study tested a null hypothesis stating that institutional structures, technological innovations and economic strategies have no significant effect on entrepreneurial sustainability. Hence, the regression analysis shows that technological innovations, institutional structures, and economic strategies all have a strong and statistically significant effect on entrepreneurial sustainability among women in SSA. The model's explanatory power is demonstrated by the fact that it accounts for 92.8% of the variance in the result. This is consistent with human capital theory (Becker, 1964), which emphasises the role of innovation and skill development in promoting growth, and institutional theory (North, 1990), which holds that formal and informal structures significantly influence economic behaviour.

The most significant predictor ($\beta = 0.328$, $p < 0.001$) was found to be institutional structures, underscoring the fundamental function of encouraging laws and fair structures in promoting the sustainability of entrepreneurship. Studies highlighting institutional improvements as accelerators for lowering systemic obstacles are consistent with this finding(Ramli & Williams, 2024). Although to differing degrees, technological innovations ($\beta = 0.193$, $p = 0.001$) and economic strategies ($\beta = 0.273$, $p < 0.001$) also make a major contribution. The moderate standard error (0.273) indicates that residual variance may be explained by unobserved elements like market volatility or cultural dynamics.

The model's validity is supported by the ANOVA results ($F = 1412.782$, $p < 0.001$), which show that explained variance significantly exceeds residuals. This emphasises the necessity of developing policies using a multimodal strategy that takes institutional structures, economic strategies, and technological innovations into account. It is important to highlight that while technology innovations do have an impact, in certain situations, disparities in digital literacy or infrastructure may be the cause of their comparatively smaller effect size (Rubio-Andrés et al., 2024).

The findings of research scholars are in conformity with the findings of this study. Yang 2024) offering resources such as licenses, subsidies, and market intelligence, institutional assistance dramatically improves entrepreneurial activity, according to a study on Chinese university graduates. This supports the findings that institutional structures have a significant effect on the sustainability of entrepreneurship, highlighting the significance of conducive conditions for entrepreneurs to obtain essential resources. Similarly, Zahrani (2022) found that sustainability training and entrepreneurial culture have a favourable impact on the results of entrepreneurial education. This bolsters the importance of technical innovations and economic policies in promoting sustainable business via training and education. Moreso, Zhong et al. (2022) found that institutional structures, such as experiential learning and financing diversification, promote sustainable entrepreneurship. This emphasises how crucial technological innovations and institutional frameworks are to fostering entrepreneurial sustainability.

Findings of some research scholars do not support the findings of this study.Zahrani (2022), found that entrepreneurship education falls short in addressing entrepreneurial sustainability, and institutional structures do not always result in successful entrepreneurial sustainability initiatives. Also, Studies of (Zhong et al., 2022) found it challenging to match institutional structures with entrepreneurial sustainability. This suggests that without dynamic capacities and cross-disciplinary integration, institutional structures would not be enough to ensure sustainable results.

5.1 Implication

In order to create beneficial conditions, authorities ought to prioritise institutional structures including gender-responsive policies and financial inclusion initiatives. Financial support for entrepreneurial education and technology infrastructure can also boost sustainability outcomes. In order to enhance these results, longitudinal data and contextual elements (such cultural norms) should be included in future research.

The study highlights the interdependence of technological, economic, and institutional elements in fostering equitable and sustainable entrepreneurship.

5.2 Contribution to knowledge

This study makes a substantial contribution to the understanding of the ways in which institutional structures, technological innovations, and economic strategies affects entrepreneurial sustainability among women in SSA. The study emphasises the value of a multifaceted strategy for promoting sustainable entrepreneurship. The results offer empirical evidence that the inclusion of economic strategies, technological innovations, and institutional structures as essential elements of entrepreneurial sustainability. This study also emphasises how important it is for policymakers to take into account how these elements interact when creating policies meant to improve the of entrepreneurial sustainability.

VI. Conclusion

This study examines the effect of technological innovations, institutional structures, and economic strategies on entrepreneurial sustainability. The study findings reveal that technology innovations, smart economic strategies, and supportive institutional structures are essential in attaining long-term entrepreneurial sustainability among women in SSA. The results highlight how important these elements are in promoting long-term entrepreneurial sustainability and the necessity of a multifaceted strategy that incorporates institutional support, financial preparation, and technology adoption. The study adds to the body of knowledge by emphasising the significance of legislative initiatives that remove structural obstacles and support inclusive entrepreneurial environments. the study provides stakeholders and policymakers with insightful information to improve the sustainability of entrepreneurship and advance fair economic growth.

6.1 Recommendation

Based on the findings of this study the following recommendations were made:

i. The creation of inclusive institutional structures that give womenentrepreneurs in SSA fair access to resources and assistance should be a top priority for policymakers.
ii. Support economic strategies that facilitate market access, innovation, and diversification among women in SSA.
iii. Invest in programs and infrastructure that encourage women entrepreneurs in SSA to utilise technology, such as access to digital tools and training in digital literacy.

REFERENCES

[1] Akpuokwe, C. U., Chikwe, C. F., &Eneh, N. E. (2024). Leveraging technology and financial literacy for women's empowerment in SMEs: A conceptual framework for sustainable development. Global Journal of Engineering and Technology Advances, 18(3), 020–032. https://doi.org/10.30574/gjeta.2024.18.3.0041

[2] Alhammadi, S., & Rahman, S. A. (2025). Financial Bootstrapping: A Case of Women Entrepreneurs in Context of Digital Economy. International Journal of Financial Studies, 13(1), 1–21. https://doi.org/10.3390/ijfs13010041

[3] Allayorava, N., Kadirov, D., Wood, B., &Bardakçı, A. (2025). An Integrative Model of Migrant Women Entrepreneurship in Family Businesses (MWE-FB): The Substratum Market System Perspective. Journal of Economy Culture and Society, 1–19. https://doi.org/10.26650/JECS2024-1485810

[4] Bhoyar, P. K., Chitrao, P. V., & Divekar, Brig. (Retd) R. (2025). Long-term outcomes and resilience in entrepreneurship education 2024: evaluating career success and adaptability. Cogent Education, 12(1), 1–16. https://doi.org/10.1080/2331186X.2025.2479399

[5] Brogan, G. S., & Dooley, K. E. (2024). Weaving together social capital to empower women artisan entrepreneurs. International Journal of Gender and Entrepreneurship, 16(1), 69–88. https://doi.org/10.1108/IJGE-03-2023-0076

[6] Cummings, S. J. R., & Lopez, D. E. (2023). Interrogating "entrepreneurship for development": a counter-narrative based on local stories of women in rural Ethiopia. International Journal of Gender and Entrepreneurship, 15(1), 22–43. https://doi.org/10.1108/IJGE-02-2022-0021

[7] Ling, A., Peng, W., Wang, Q., & Yang, X. (2024). A comprehensive research progress of applying NLP in financial problems. XitongGongcheng Lilun Yu Shijian/System Engineering Theory and Practice, 44(1), 387–406. https://doi.org/10.12011/SETP2023-1935

[8] Mayanja, S. S., Mutebi, H., & Isingoma, J. W. (2025). Entrepreneurial networking and sustainability of women-owned micro-enterprise performance: the mediating role of self-organization and entrepreneurial learning behaviors. IIMBG Journal of Sustainable Business and Innovation, 1–26. https://doi.org/10.1108/IJSBI-08-2024-0039

[9] Mkalama, B., & Ouma, S. (2025). State of the Art Making sense of funding inequalities in the venture capital space: a state-of-the-art review paper with views from Africa State of the Art. Socio-Economic Review, 00(0), 1–25. https://doi.org/10.1093/ser/mwaf007

[10] Ngobese, T., & Ramraj-Beharry, A. (2025a). Entrepreneurial education and africa's attainment of sustainable development goals. Journal of Sustainable Development Law and Policy, 16(1), 1–24. https://doi.org/10.4314/JSDLP.V16I1.1

[11] Ngobese, T., & Ramraj-Beharry, A. (2025b). Entrepreneurial education and africa's attainment of sustainable development goals. Journal of Sustainable Development Law and Policy, 16(1), 1–24. https://doi.org/10.4314/JSDLP.V16I1.1

[12] O'Brien, E., & Cooney, T. M. (2024). Enhancing inclusive entrepreneurial activity through community engagement led by higher education institutions. Journal of Enterprising Communities, 19(2), 177–201. https://doi.org/10.1108/JEC-10-2023-0189

[13] Ojediran, F. O., & Anderson, A. (2020). Women's entrepreneurship in the global south: Empowering and emancipating? Administrative Sciences, 10(87), 1–22. https://doi.org/10.3390/admsci10040087

[14] Omotosho, A. O., Mathew, K., Modise, A., &Ayandibu, A. (2024). Advancing women entrepreneurship in a developmental state: an agenda for higher education institutions. Cogent Education, 11(1), 1–16. https://doi.org/10.1080/2331186X.2024.2309743

[15] Owusu-Kwarteng, A., Jack, S., Forson, C., & (Lola) Dada, O. (2025). In pursuit of the third mission: Exploring women's participation in academic engagement activities in sub-Saharan Africa. Technovation, 141(2025), 1–13. https://doi.org/10.1016/j.technovation.2025.103188

[16] Pauceanu, A. M., Rabie, N., Moustafa, A., &Jiroveanu, D. C. (2021). Entrepreneurial leadership and sustainable development—a systematic literature review. Sustainability (Switzerland), 13(11695), 1. https://doi.org/10.3390/su132111695

[17] Raimi, L., Panait, M., Gigauri, I., & Apostu, S. A. (2023). Thematic Review of Motivational Factors, Types of Uncertainty, and Entrepreneurship Strategies of Transitional Entrepreneurship among Ethnic Minorities, Immigrants, and Women Entrepreneurs. Journal of Risk and Financial Management, 16(2), 1–24. https://doi.org/10.3390/jrfm16020083

[18] Ramli, K., & Williams, N. (2024). The interplay of affirmative action and entrepreneurial culture: Understanding institutional privilege and exclusion in Malaysia. International Journal of Entrepreneurship and Innovation, 0(0), 1–14. https://doi.org/10.1177/14657503241229689

[19] Rashid, L. (2019). Entrepreneurship education and sustainable development goals: A literature review and a closer look at fragile states and technology-enabled approaches. Sustainability (Switzerland), 11(5343), 1–23. https://doi.org/10.3390/su11195343

[20] Rosário, A. T., & Figueiredo, J. (2024). Sustainable entrepreneurship and corporate social responsibility: Analysing the state of research. SustainableEnvironment, 10(1). https://doi.org/10.1080/27658511.2024.2324572

[21] Rosário, A. T., & Raimundo, R. (2024). Sustainable Entrepreneurship Education: A Systematic Bibliometric Literature Review. Sustainability (Switzerland), 16(784), 1–23. https://doi.org/10.3390/su16020784

[22] Rosário, A. T., Raimundo, R. J., & Cruz, S. P. (2022). Sustainable Entrepreneurship: A Literature Review. Sustainability (Switzerland), 14(5556), 1–25. https://doi.org/10.3390/su14095556

[23] Rubio-Andrés, M., Linuesa-Langreo, J., Gutiérrez-Broncano, S., & Sastre-Castillo, M. Á. (2024). How to improve market performance through competitive strategy and innovation in entrepreneurial SMEs. International Entrepreneurship and Management Journal, 20, 1677–1706. https://doi.org/10.1007/s11365-024-00947-9

[24] Tolossa, A. T., Singh, M., & Gautam, R. K. (2024). Unveiling the Nexus: the crucial role of competitive advantage in bridging entrepreneurial marketing practices and sustainable firm performance in small and medium enterprises. Journal of Innovation and Entrepreneurship, 13(1), 1–24. https://doi.org/10.1186/s13731-024-00398-0

[25] Tuncer, B., & Korchagina, E. (2024). A Systematic Literature Review and Conceptual Framework on Green Entrepreneurial Orientation. Administrative Sciences, 14(109), 1–18. https://doi.org/10.3390/admsci14060109

[26] Yang, Y. (2024). Impact of institutional support and green knowledge transfer on university students' absorptive capacity and green entrepreneurial behaviour: The moderating role of environmental responsibility. PLoS ONE, 19(5 May). https://doi.org/10.1371/journal.pone.0304070

[27] Zahrani, A. A. (2022). Promoting sustainable entrepreneurship in training and education: The role of entrepreneurial culture. Frontiers in Environmental Science, 10. https://doi.org/10.3389/fenvs.2022.963549

[28] Zhong, Z., Feng, F., Li, J., Liu, X., Cao, Y., & Liao, Y. (2022). Making university and curricular sustainable entrepreneurship: a case study of Tsinghua University. Asia Pacific Education Review, 23(4), 559–569. https://doi.org/10.1007/s12564-022-09797-y