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Effect of Digital Innovation on Rural Development and Inclusive Urbanization in Baringo County

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Abstract

Digital innovation is emerging as a pivotal catalyst for rural development, significantly influencing inclusive urbanization, particularly in regions like Baringo County. The study aimed to establish the effect of digital innovation on rural development and inclusive urbanization in Baringo County. The study anchored Digital Transformational Theory. The research was grounded on positivism research philosophy with the use of descriptive research design. A self-administered questionnaire was used to collect primary data. The target population was 44 Members of County Assembly from Baringo County. Census method was administered to attain a sample size. Descriptive statistics such as mean and standard deviation and inferential statistics such as correlation, ANOVA, and regression analysis were used to analyze the data. SPSS software version 28 was utilized for data exploration. The regression results revealed that digital innovation has a statistically significance influence on rural development and inclusive urbanization in Baringo County($\beta = 0.104. t = .768, p < 0.05$). The study recommends that in Baringo County need to adopt digital innovation considered to be effective tool for achieving SDGs by addressing challenges braising from rapid urbanization through sustainable practices. The study also recommends that the main the MCAs should implement comprehensive digital literacy programs targeting both youths and adults in urban areas to ensure they can fully participate in a digitally driven economy.

Keywords*: Digital innovation, Rural Development, local voices, Leadership, inclusive urbanization.*

Introduction

Inclusive urbanization emphasizes the need to ensure that all urban residents, regardless of their socio-economic status, have access to essential services, opportunities, and the benefits of urban living. Achieving this inclusivity within rapidly expanding urban areas presents numerous challenges, notably in the realms of housing, transportation, and public services (Hofer *et al.,* 2021). In this context, digital innovation emerges as a transformative tool, offering solutions that enhance urban planning, governance, and service delivery (Mora *et al.,* 2023). By leveraging technologies such as smart city applications, the Internet of Things (IoT), and data analytics, cities can become more adaptive and responsive to the needs of diverse populations, thus facilitating more inclusive urban growth. Notably, local voices and leadership play a pivotal role in advocating for inclusive urbanization. Engaging local communities and leaders ensures that technological solutions are contextually relevant, culturally sensitive, and aligned with the needs and aspirations of the people (Salim & Drenth, 2020).

Helsinki, et al. (2021) opined on the precarious role associate with smart city upon unification of digital innovation. The authors further accentuated the fact that better sustainability is greatly predisposed by adoption of bottom-up approach as witnessed by a number of smart cities in Singapore and London. Further, Shamsuzzohe *et al.* (2021) echoed on the fact that adoption of digital innovation i.e. multidisciplinary approaches have greatly addressed the socio-technical challenges, pointing out the significance for a stout technological solutions constituting to social equity. Digital innovation had greatly enhanced sustainable urbanization by Zhang and Zhou (2022) especially in China. The authors contend that inclusive urbanization is mainly linked by digital involves not limited to information technology, industrial structures, knowledge exchange, and resource allocation. While the study established that urbanization was as a result of digital technology and by extension need for improved economic development mainly associated with digital technologies in shaping urban cities (Zhang &Zhou,2022). Jung and Kang (2023) carried out research on the effect of digital innovation on inclusive urbanization in South Korea. The results indicated that appropriate governance, availability of infrastructure, and smart technologies had to be considered to enhance inclusive citizen participation that tackled inequality throughout the urban planning stages. The significance of digital technology has become an important area of the study.

Wasonga, Naliaka, and Schulz (2022) research on the role played by digital innovation in offering opportunities to enhance service delivery and urban development in Sub-Saharan Africa (SSA). The authors emphasized on the importance of digital innovations especially when implemented by residents which are greatly aligned with the principles of inclusive cities that advocates for diversity, equity, dignity, and democracy for all the residents. Moreover, Kroff *et al*. (2021) established that in Rwanda, digital innovation has greatly transformed the rural rendezvous through mobile solutions that have improved agriculture, taking into account better access to the market, contributing to urban sustainability.

Kenya's commitment to leveraging digital technology for national development is evident through various initiatives that have transformed both urban and rural areas. The Huduma Digital platform, for instance, has revolutionized service delivery in rural regions, enhancing access to essential services and linking rural productivity with urban markets (Waweru, 2022). Additionally, local leaders and community organizations have been pivotal in advocating for inclusive urbanization policies, as demonstrated by the Kibera Slum Upgrading Program (Agayi & Serdaroğlu Sağ, 2020). This commitment extends to establishing innovation hubs across the countryside, which promote digital literacy and serve as centers for technological innovation. In urban centers like Nairobi, the evolution into a smart city with improved traffic management systems and e-governance highlights the benefits of digital innovations in enhancing urban living standards (Guma & Monstadt, 2021). Collectively, these efforts ensure

that digital advancements benefit all residents and provide a robust model for other nations aiming to use technology for holistic development.

Moreover, integrating digital innovations into broader development strategies is important in addressing social, economic, and environmental aspects of development, enhancing education, labor markets, health, and housing, and reducing inequality and spatial segregation. Hence, this investigation seeks to establish the consequences of digital innovation for rural development, inclusive urbanization in Baringo County.

Statement of the Problem

Implementation of comprehensive digital innovation comparable has significantly enhanced rural development and support inclusive urbanization in Baringo County by focusing on key challenges such as limited access to information, markets, and service delivery. Notably, Mwangi, (2024) echoed on the idea that implementation of the comprehensive digital platforms in Kenya Rural Transformation Centers Digital Platforms (KRTCDP) offered farmers advanced modern techniques of weather predictions and forecasts, prices of market and extension by access services. Despite intiatives such as Kenya Agricultural Marketing Strategy (AMS) OF 2023-2032 whose prominence is directed twoards leveraging digital innovation aimed at enhancing access to the market for small farmer (KIPPRA, 2024).

As of projections for 2025, Baringo County has a population of approximately 764,411 people with only 11% live in urban centers (County Government of Baringo, 2023). While there have been improvements in ICT infrastracture with networking across government offices and training programs for ICT skills, there remains a need for enhanced digital connectivity (Onyango & Ondiek, 2021). Further, the County faces issues like water scarcity and limited access to clean drinking water, previously below 35%, now at about 39% as per the Census Survey of 2019 (County Government of Baringo, 2023). Additionally, enhancing digital infrastracture can improve County competitiveness by facilitating better communication network and inclusive urbanization involves ensuring that urban planning are linked to accesisble digital services for all residents such as e-governments survices to streamline public service delivery.

Moreover, there has been incidence of lack of specific policies addressing the unique challenges faced in the rural set up which is mainly associated with inadequacy in proper connectivity, and partial accessibility to digital devices not overlooking on the nature of inconsistency supply of power. Theoretically, there has been numerous gaps in trying to possess high levels of understanding on how different frameworks can be applied to integrate technology effectively into both rural development strategies and inclusive urban planning processes. A comprehensive theoretical framework seeks to integrate aspects being captured by digital transformational theory in offering insights into how community involvement influences technology adoption rates.

Theoretical Framework

Digital Transformation Theory

The Digital Transformation Theory by Shannon, (1948) noted that leveraging in technology constitute to improvements of processes and outcomes in the organization as was the anchoring theory for this study. The theory also seeks to unlock the existing opportunities for sustainable economic growth by enhancing access to market and services. McAfee and Brynjolfsson, (2012) noted that theory is significant especially in data driven management in the context of digital transformation, focusing on the protagonist of technology in embracing the changes being witnessed in the organization. Moreover, Ebert and Duarte, (2018) clearly highlighted the fact that digital transformation is mainly linked with the need for upgraded technological aspects such as improved software which are crucial for transformation within an

organizational set up. In line with Shannon, (1948) established that institutions that possess improved digital transformation are capable of reaping both in the short and long run.

Literature Review

Digital Innovation for Rural Development

Digital innovation constitutes to approaches aimed at bridging digital initiatives like the digital rural projects aim to improve the infrastructures and skills in rural set up, enabling member of the communities to fully involve in the digital world. Moreover, it can mainly be associated with enhanced connectivity, promotion of digital literacy engagements, and transforming government services electronically. Liu, Chen, Li, and Wu (2023) noted that digital transformation enhanced the growth of a number of counties in Chines through improved agricultural mechanizations. The study found that digital financial inclusion significantly promotes the growth of agricultural mechanization. At the county level, digital financial inclusion also indirectly contributes to agricultural mechanization through urbanization, indicating an intermediary effect where financial concentration at the county level enhances farmers' income through increased mechanization.

West Java Province, one of Indonesia's most populous and economically dynamic regions, offers a distinctive setting for exploring the connections between digital innovations and village development, especially in the context of rural-urban linkages. This study aligns with research by Tanjung et al. (2024), which investigates the role of digital innovations in enhancing village development within these linkages in West Java. Village development is increasingly recognized as essential for the broader Indonesian economy, yet numerous challenges continue to impede progress in rural areas, keeping them significantly behind urban centers. To accelerate the village economy, the study suggests focusing on innovations that enhance productivity, quality, and value addition, as well as differentiating superior products and leveraging information and digital marketing. These strategies are expected to spur economic growth in rural areas by making them more competitive and better integrated with the broader economy.

Digital financial innovation emerges as an influential instrument in global efforts to enhance financial access and economic participation. In developing countries, digital financial innovation has the potential to transform the economic landscape by providing previously underserved populations with the right to financial products and services. George, Ge, and Tang (2024) undertook research on the influence of digital financial innovation inclusion on rural revitalization in Tanzania. The research highlights how technological advancements have transformed the financial industry through digitization, leading to the broader inclusion of financial services. This expansion of digital financial inclusivity has played a crucial role in developing a sustainable rural economy, significantly contributing to the revitalization of rural communities in Tanzania.

Rural digital innovation in rapidly urbanizing regions of Central Kenya is influenced by a complicated association of various socio-economic, cultural, and environmental aspects. As urban centers expand and modernize, the rural areas around them undergo significant changes that redefine their traditional landscapes and livelihoods. Meanwhile, Muriithi (2024) examined a study on dynamics shaping rural digital innovation transformation in rapidly urbanizing rural areas in Central Kenya. The study explored the effects of rapid urbanization in rural Chaka town and its environs in Central Kenya, thus triggering the digital innovation transformation of the entire landscape. These findings implied that there is a need for policy interventions focusing on sustainable and balanced agricultural and urban development, the

need for integrated land use planning, and skill development for livable urban living in emerging urban and transformed rural areas.

Conceptual Framework

The conceptual framework elucidates the variables and their measurements.

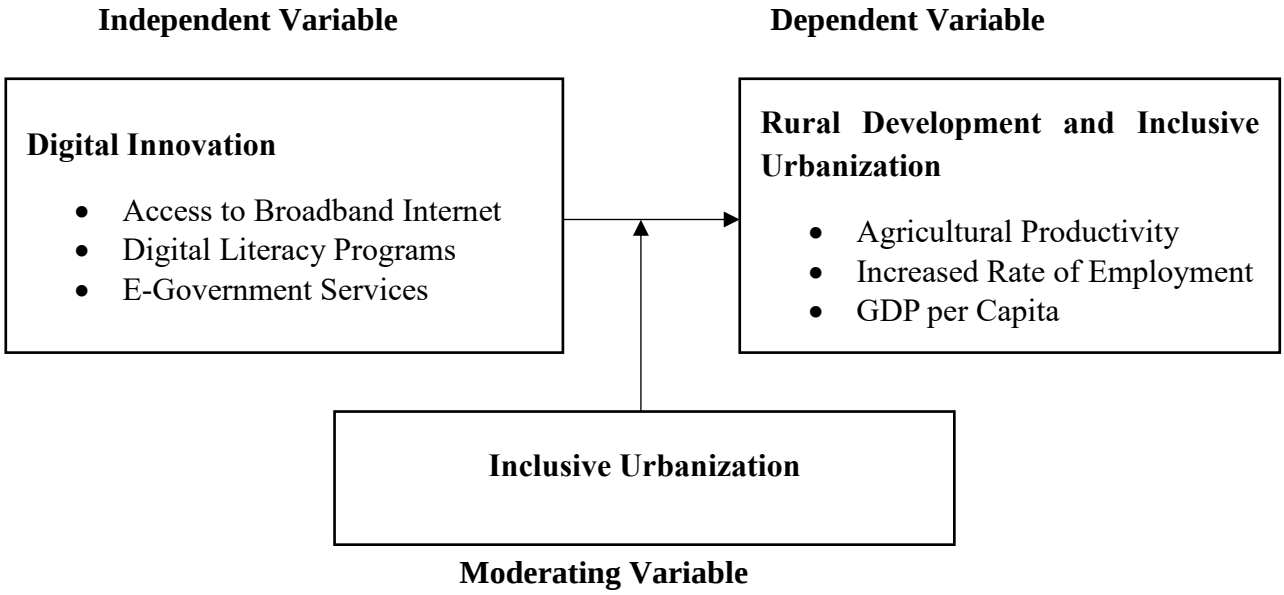

Figure 1: *Conceptual Framework*

Research Methodology

The research adopted a descriptive design and data collection was primary which was done using self-administered questionnaires. The study target population was 44 Members of the County Assembly (MCAs). Census method was administered to attain the sample size. The study received responses from 44 study participants yielded to a response rate of 86.4%.

Research Results

The study aimed to determine the effect of digital innovation for rural development on inclusive urbanization in Baringo County using a 5-point Likert scale where 5-Strongly Disagree (SD), 4- Disagree (D), 3-Neutral (N), 4-Agree (A) and 5-Strongly Agree (SA). In Table 1, the responses had a composite mean of 4.1>3.0 set benchmark.

Digital Innovation for Rural Development

The research sought to explore digital innovation on rural development and inclusive urbanization.

Table 1:
Digital Innovation for Rural Development Level of Agreement Outcomes

Statements	1	2	3	4	5	Mean	Std Dev
Internets of Things (IoT) technologies have improved monitoring and management of agricultural processes in rural areas.	-	-	2(5.3%)	19(50%)	17(44.7%)	4.46	0.605
Innovation hubs have promoted the development of digital solutions tailored to the needs of rural communities.			1(2.6%)	22(57.9%)	15(39.5%)	3.96	0.756
Mechanized agriculture, often guided by digital systems, has increased productivity and efficiency in rural farming.	-	1(2.6%)	2(5.3%)	19(50%)	16(42.1%)	4.22	0.704
IoT based solutions have enhanced access to healthcare services in rural areas.		3(7.9%)	4(10.5%)	20(52.6%)	11(28.9%)	4.03	0.730
Digital platforms have connected rural entrepreneurs with new markets and business opportunities	-	3(7.9%)	5(13.2%)	14(36.8%)	16(42.1%)	4.04	0.855
Innovation hubs have facilitated knowledge sharing and skill development among rural youth.	1(2.6%)	-	4(10.5%)	23(60.5%)	10(26.3%)	4.14	0.761
Digital tools have streamlined the delivery of government services and benefits of rural citizens.	-	1(2.6%)	6(15.8%)	14(36.8%)	17(44.7%)	4.00	0.730
IoT based early warning systems have improved disaster preparedness and response in rural communities.	-	-	4(10.5%)	11((28.9%)	23(60.5%)	3.67	0.971
Composite Mean/Std Dev						**4.0**	**0.764**

*Percent are in Brackets; F – Frequency

The findings provided in Table 1 indicate that study participants agreed and, in some cases, strongly agreed that the surveyed at Baringo County, clearly highlighted that digital innovation has a positive implication on rural development and inclusive urbanization.

Inferential Statistics

This section outlines the results of the correlation and regression analyses. Correlation analysis assesses the strength of the linear relationship between independent and dependent variables, with values ranging from -1 to +1. Pearson correlation was employed, where a coefficient between 0.3 and 0.5 indicates a moderate linear relationship and a coefficient above 0.5

signifies a strong positive linear relationship. Additionally, multiple regression analysis was performed to examine the influence of independent variables on the dependent variable, with a significance level set at 0.05. The analysis aimed to determine if independent variables significantly affect the dependent variable.

Correlation Analysis

As shown in Table 2, the results show that there is a moderately significant correlation (r) between digital innovation and rural development in Baringo County (r=0.389, p=0.13>0.050. The findings imply a moderate relationship exists between the two variables of the study. The findings suggest that there exists a perfect positive linear correlation between the study variables.

Table 2:

Correlation Analysis Outcome

		Digital Innovation	Rural Development	Inclusive Urbanization
Digital Innovation	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	38		
Rural Development	Pearson Correlation	0.389	1	
	Sig. (2-tailed)	0.13		
	N	38	38	
Inclusive Urbanization	Pearson Correlation	0.520**	0.417**	1
	Sig. (2-tailed)	0.000	0.000	
	N	38	38	38

**Correlation is significant at the 0.01 and 0.05 level (2-tailed)

Regression Analysis

The study sought to determine the effect of digital innovation on rural development and inclusive urbanization in Baringo County. The study applied a simple linear regression to provide answers to this research questions. Additionally, the findings from the simple linear regression analysis were applied to test null hypothesis of the study which was;

H_0: There is no statistically significant relationship between digital innovation on rural development and inclusive urbanization in Baringo County.

The regression model summary Table 3 includes the correlation coefficient (R) and the R-Squared relating to the relationship and explanatory power of digital innovation linked with rural development and inclusive urbanization in Baringo County.

Table 3

Model Summary Outcome

Model	R	R-Square	Adjusted R-Square	Std Error of the Estimates
1	.526	.276	.246	.4371637

a. **Predictors (Constant),** Digital Innovation

The study results in Table 3 demonstrate a moderate linear relationship between digital innovation on rural development and inclusive urbanization (r = 0.526). The study findings

additionally indicate that digital innovation explains 24.6% of the variation on rural development and inclusive urbanization in Baringo County (r-Squared = 0.276). This implies that variables that were not considered in the model explained by 75.4% of the variation on rural development and inclusive urbanization in Baringo County.

The researcher conducted an ANOVA test to evaluate the statistical significance of the model. Table 4 provides a summary of findings.

Table 4

ANOVA for Digital Innovation on Rural Development

Model		Sum of Square	df	Mean Square	F	Sig
1.	Regression	5.257	3	1.752	9.170	0.000[b]
	Residual	13.760	35	0.191		
	Total	19.018	38			

a. Predictors: (Constant), digital innovation

b. Dependent Variable: Rural Development

The study findings summarized in Table 4 demonstrates that the f-value for the model was statistically significant, thereby indicating that the model was statistically significant (F = 9.170). The results indicate that the regression model is good fit for the empirical data gathered on digital innovation on rural development and inclusive urbanization in Baringo County. The results depict that rural development and inclusive urbanization in Baringo County was significantly influenced by digital innovation.

The study general regression coefficients form the regression model fitted in order to ascertain the degree to which digital innovation influenced rural development and inclusive urbanization in Baringo County. The regression coefficients were utilized to evaluate both the magnitude and direction of the influence. The standardized and unstandardized regression coefficients, t-tests and the significance (p) values are presented in Table 5.

Table 5

Overall Multiple Regression Coefficients Outcome

Unstandardized Coefficients			**Standardized Coefficients**		
Model	B	Std Error	Beta	t	Sig
(Constant)	2.263	.595	.089	3.805	.000
Digital Innovation	.104	.135	.022	.768	.004

a. **Dependent Variable:** Rural Development

The research findings shown in Table 4 gives a rise to the subsequent regression model.

Rural Development and Inclusive Urbanization= 2.263 + 0.104 (Digital Innovation)

The study findings presented in Table 5 and the subsequent regression demonstrate that if the Baringo County did not adopt digital innovation, it would have a negative implication on rural development and inclusive urbanization having a rating of 2.263 (Constant=2.263). The findings also depict that digital innovation had a significant positive influence on rural development and inclusive urbanization in Baringo County ($\beta = 0.104. t = .768, p < 0.05$). Hence, the null hypothesis stating that "Digital Innovation has no statistically significant influence on rural development and inclusive urbanization in Baringo County," was rejected.

Additionally, the study findings suggest that one-unit increase in digital innovation would result comparable increase of .104 in rural development and inclusive urbanization and vice versa.

Conclusion

The correlation analysis results that there was a significant and moderate relationship between digital innovation on rural development and inclusive urbanization ($r = 0.526$, $p < 0.05$). These results imply that the effect of digital innovation on rural development and inclusive urbanization in Baringo County is statistically significant. The results support the findings of research conducted by Burattini, Perin, Alvarenga, and Valiyaparambil, (2022) noted that digital innovations plays a crucial role in rural development by enhancing awareness and satisfaction among rural populations. Additionally, the results of this results agrees with the study conducted in Tanzania by George, Ge, and Tang (2024) noted that technological advancements have transformed the financial industry through digitization, leading to the broader inclusion of financial services.

The rsults of this study support the results of another study conducted by Muriithi (2024) explored the effects of rapid urbanization in rural Chaka town and its environs in Central Kenya, thus triggering the digital innovation transformation of the entire landscape. These findings implied that there is a need for policy interventions focusing on sustainable and balanced agricultural and urban development, the need for integrated land use planning, and skill development for livable urban living in emerging urban and transformed rural areas.

Conclusion

The study sought to examine the effect of digital innovation on rural development and inclusive urbanization in Baringo County. The study findings revealed that digital innovation have a statistically significant influence on rural development and inclusive urbanization in Baringo County hence the null hypothesis was rejected. The results asserted that digital innovation addressed both urban-rural disparities while promoting regional development. This involves enhancing digital literacy across regions.

Recommendations

The study demonstrated that digital innovation had a significant influence on rural development and inclusive urbanization in Baringo County. The study recommends that in Baringo County need to adopt digital innovation considered to be effective tool for achieving SDGs by addressing challenges braising from rapid urbanization through sustainable practices. The study also recommends that the main the MCAs should implement comprehensive digital literacy programs targeting both youths and adults in urban areas to ensure they can fully participate in a digitally driven economy.

REFERENCES

Akanle, O., Ademuson, A., & Shittu, O. (2020). Scope and limitation of study in socialresearch. *Contemporary issues in social research*, *105*, 114.

Brunetti, F., Matt, D., Bonfanti, A., De Longhi, A., Pedrini, G., & Orzes, G. (2020). Digital transformation challenges: strategies emerging from a multi-stakeholder approach. *The TQM Journal*, *32*(4), 697-724.

Burattini, B., Perin, G., Alvarenga, K., & Valiyaparambil, V. (2022). Digital innovations in delivering social protection in rural areas:Lesson for public provisioning during the post-pandemic recovery and beyond. *International Policy Centre for Inclusive Growth (IPC-IG)*.

Chen, M., & Shen, R. (2023). Rural settlement development in western China: risk, vulnerability, and resilience. *Sustainability*, *15*(2), 1254.

Chow, S., Shao, J., Wang, H., & Lokhnygina, Y. (2017). *Sample size calaculations in clinical research.* Chapman and Hall/CRC.

Ebert, C., & Duarte, C. (2018). *Digital Transformation* (Vol. 35). IEEE Software.

Ezeiduku, B., Walter, O., Ugwuagu, N., & Obianuju, C. (2023). *Effect of Urbanization on Housing Provision In Urban Centers in Enugu State Nigeria.*

George, N., Ge, H., & Tang, D. (2024). Effect of Digital Financial Inclusion on Rural Revitalization in Tanzania. *Journal of Economics, Management and Trade, 30*(6), 88-106.

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods.* Sage.

Huedo, P., Rua, M., Florez-Perez, L., & Agost-Felip, R. (2021). Inclusion of gender views for the evaluation and mitigationof urban vulnerability: A case study in castellon. *Sustainability, 13*(18), 10-62.

KIPPRA. (2024). *Enhancing Market Access Through Digital Technologies Among Smallholder Farmers in Kenya.*

Lakens, D. (2022). Sample size justification. *Collabra-psychology, 8*(1), 33-267.

Liu, C., Chen, L., Li, Z., & Wu, D. (2023). The effect of digital financial inclusion and urbanization on agricultural mechanization: Evidence from counties of China. *Plos one, 18*(11), 293-910.

Maravalle, A., Sanchez, A., & Pandiella, A. (2024). Improving housing and urban development policies in Mexico.

McAfee, A., & Brynjolfsson, E. (2012). Race Against The Machines: How The Digital Revolutio its Accelerating Innovation, Driving Productivity, And Irreversibly Transforming Employment And The Economy.

Montgomery, D. (2023). This study is not without its limitations and recommending future research in applied lingustics research articles. *Journal of English for Academic Purposes, 65*, 101-291.

Muriithi, J. (2024). *Dynamics Shaping Rural Transformation in Rapidly Urbanising Rural Areas in Central Kenya.*

Mwangi, E. (2024). *4000 small-holder farmers to benefits from digital; platforms.* Kenyan News.

Obwatho, S. (2014). *Academic research writing: The logical sequence.* Nairobi: Starbright Services.

Onwujekwe, O., Orjiakor, C., Odii, A., Uzochukwu, B., Agwu, P., Mbachi, C., & Mirzoev, T. (2022). Examining the roles of stakeholders and evidence in policymaking for inclusive urban development in Nigeria: Findings from a policy analysis. *In Urban Forum*, 1-31.

Onyango, G., & Ondiek, J. (2021). Digitalization and Integration of Sustainable Development Goals in Public Organizations in Kenya. *Public Organization Review, 21*(3), 511-526.

Pandey, P., & Pandey, M. (2021). *Research methodology tools and techniques.* Bridge Center.

Shannon, C. (1948). A mathematical theory of communication. *The Bell System Technical Journal, 27*(3), 379-423.

Sileyew, K. (2019). *Research design and methodology* (Vol. 7). Cyberspace.

Stojanova, S., Cvar, N., Verhovnik, J., Bozic, N., Trillar, J., Kos, A., & Stojmenova Duh, E. (2022). Rural digital innovation hubs as a pradigm for sustainable business models in europe's rural areas. *Sustainability, 14*(21), 12-620.

Tanjung, D., Kriswantriyono, A., Purnamadewi, Y., Suhardjito, D., & Wulandari, Y. (2024). The roles of innovations for village development in rural-urban linkages in West Java Province. *In IOP Conference Series: Earth and Environmentl Science, 1359*(1), 12-56.

Vos, R. (2024). *Voices from the city: strategies for inclusive participation in urban redevelopment (Doctoral dissertation).*

Wambui, R. (2023). *Transformational leadership style and organizational performance in the ministry of lands, public works, housing and urban development in Nairobi City County Kenya (Doctoral dissertation, Cuk).*

Willets, J., Priadi, C., Ombasta, O., Wulandari, D., Imtoyaz, I., Sudhiastiningsih, N., & Listyasari, M. (2022). Co-developing evidence informed adaptation actions for resilient citywide sanitation: Local government response to climate change in Indonesia. *Environment and Planning B: Urban Analytics and City Science, 49*(8), 2129-2150.

Zscheischler, J., Brunsch, R., Rogga, S., & Scholz, R. (2022). Perceived risks and vulnerabilities of employing digitalization and digital data in agriculture-Sociallt robust orientations from a transdisciplinary process. *Journal of Cleaner Production, 358,* 13-2034.