



## East African Journal of Business and Economics

[ejbe.eanso.org](http://ejbe.eanso.org)

Volume 8, Issue 1, 2025

Print ISSN: 2707-4250 | Online ISSN: 2707-4269

Title DOI: <https://doi.org/10.37284/2707-4269>

**ENSO**  
EAST AFRICAN  
NATURE &  
SCIENCE  
ORGANIZATION

Original Article

### Entrepreneurial Performance of Small and Medium Enterprises and Digital Transformation in Busia County, Kenya

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Article DOI: <https://doi.org/10.37284/eajbe.8.1.3111>

Date Published: **ABSTRACT**

09 June 2025

Keywords:

*Small and Medium Enterprises, Entrepreneurial Performance, Digital Transformation.*

The impact of digital transformation on the operations of small and medium-sized businesses (SMEs) in Kenya's Busia County was examined in this study. The study investigated the relationship between SME performance as the dependent variable and organizational culture, leadership commitment, digital literacy, and technology infrastructure as independent variables using a quantitative, correlational survey design with 317 SMEs as the sample size from Busia County, Kenya. The results indicate a positive correlation between SME performance and all independent variables. Higher revenue growth was driven by employee digital literacy ( $r=0.68$ ) and leadership commitment ( $r=0.72$ ). Data analytics was only 15% adopted, compared to 85% for digital tools like mobile money. The study concludes that the best way for Busia County SMEs to take advantage of digital transformation is to foster an innovative culture within the company, develop digital skills, and exercise leadership. This study recommends that significant investment should be directed toward comprehensive digital literacy and skills training for SME owners and employees while at the same time, improvements in reliable, affordable, and high-speed internet connectivity, particularly in rural and peri-urban areas should be made a priority.

#### APA CITATION

Omoga, C. O., Ongaga, P. O. & Kosgei, N. (2025). Entrepreneurial Performance of Small and Medium Enterprises and Digital Transformation in Busia County, Kenya. *East African Journal of Business and Economics*, 8(1), 485-494. <https://doi.org/10.37284/eajbe.8.1.3111>.

#### CHICAGO CITATION

Omoga, Charles Owuor, Peter Odhiambo Ongaga and Kosgei Nehemiah "Entrepreneurial Performance of Small and Medium Enterprises and Digital Transformation in Busia County, Kenya". *East African Journal of Business and Economics* 8 (1), 485-494. <https://doi.org/10.37284/eajbe.8.1.3111>.

#### HARVARD CITATION

Omoga, C. O., Ongaga, P. O. & Kosgei, N. (2025) "Assessing the Effectiveness of Human Capital Management Information Systems (HCMIS) in Employee Record-Keeping: A Case Study of Public Institutions in Dodoma, Tanzania", *East African Journal of Business and Economics*, 8(1), pp. 485-494. doi: 10.37284/eajbe.8.1.3111.

#### IEEE CITATION

C. O., Omoga, P. O., Ongaga & N., Kosgei “Assessing the Effectiveness of Human Capital Management Information Systems (HCMIS) in Employee Record-Keeping: A Case Study of Public Institutions in Dodoma, Tanzania”, *EAJBE*, vol. 8, no. 1, pp. 485-494, Jun. 2025.

#### MLA CITATION

Omoga, Charles Owuor, Peter Odhiambo Ongaga & Nehemiah Kosgei “Assessing the Effectiveness of Human Capital Management Information Systems (HCMIS) in Employee Record-Keeping: A Case Study of Public Institutions in Dodoma, Tanzania”. *East African Journal of Business and Economics*, Vol. 8, no. 1, Jun. 2025, pp. 485-494, doi:10.37284/eajbe.8.1.3111.

## INTRODUCTION

The promotion of economic growth and innovation due to the increasing accessibility of Information and Communications Technology has led to a growing entrepreneurial space in Kenya (World Bank, 2023). According to OECD (2022), Global Entrepreneurship Monitor (2023). However, there is a need for strategic interventions to counter the existing limited access to finance and infrastructure and a stiff regulatory environment. A global imperative for organizations that seek to remain competitive in the modern era has been to integrate digital technology into all aspects of a business (McKinsey & Company, 2023; Harvard Business Review, 2023; World Economic Forum, 2023), increased technological advancements including cloud computing, artificial intelligence and the Internet of Things (IoT) has led to increased opportunities for businesses to innovate and transform. Additionally, digital tools like Automation and data analytics can improve decision-making as a result of reduced costs and streamlined processes (Deloitte, 2023)

The launching of the Kenya Digital Superhighway Project has placed Kenya as a provider of access to digital infrastructure. Studies have shown that the utilization of digital services significantly increases the performance of SME businesses in terms of sales, profits, savings, and customer base (Kiplagat, 2015) Kenya has emerged as an innovator in the development of financial mobile apps (M-PESA) and crowd-sourced websites (Ushahidi). Sectors where ICT innovations have been developed and are being commercialized in Kenya include education, health, agriculture, tourism, and commerce

(marketing and advertising) (Ncube & Ondiege, 2012)

Despite these advancements, economic barriers hinder digital access, especially in rural areas. In urban slums and rural areas alike, limited access to the digital economy obstructs access to online job platforms, remote work opportunities, and financial services, further entrenching economic inequality (Tahmasebi, 2023)

Significant questions remain regarding its concrete impact, particularly among small and medium-sized enterprises (SMEs), despite widespread enthusiasm for ICT's role in entrepreneurship; there is therefore a need for more research that looks into the mechanisms in which ICT influences business performance and growth in the Kenyan context. Valuable insights to guide policy formulation and the development of targeted support strategies, ultimately enhancing the effectiveness of efforts to promote entrepreneurship across the country, would be provided by such research.

### Statement of the Problem

Small and Medium Enterprises still face considerable hurdles in maintaining competitiveness within today's rapidly shifting digital environment although the SME sector in Kenya has seen notable growth in recent years (World Bank, 2023), Digital transformation can drive greater efficiency, open up new market access, and enhance overall competitiveness on one hand (McKinsey & Company, 2023). On the other, it often demands substantial financial investment and technical expertise to execute successfully (Deloitte, 2023). These barriers can directly contribute to underperformance among SMEs,

potentially leading to job losses and stunted economic progress. This research seeks to deliver insightful analysis for both Kenyan SMEs and policymakers on strategies for effectively leveraging digital transformation to foster economic growth and sustainable development.

### **Purpose of the Study**

The purpose of this study was to examine the impact of digital transformation on the entrepreneurial performance of SMEs in Busia County.

The study was guided by the following objectives:

- To examine the relationship between organizational culture and SME entrepreneurial performance in Busia County.
- To assess the extent to which top leadership commitment to digital technology adoption influences the entrepreneurial performance of SMEs in Busia County.
- To examine the relationship between employees' digital literacy and SME entrepreneurial performance in Busia County.
- To evaluate how accessibility to digital technology infrastructure affects the entrepreneurial performance of SMEs in Busia County.

### **Research Questions**

This study was guided by the following research questions:

- How does organizational culture influence the entrepreneurial performance of SMEs in Busia County?
- To what extent does top leadership's commitment to digital technology adoption affect the entrepreneurial performance of SMEs in Busia County?
- iii. What is the nature of the relationship between employees' digital literacy and SME

entrepreneurial performance in Busia County?

- How does accessibility to digital technology infrastructure relate to the entrepreneurial performance of SMEs in Busia County?

### **Scope of the Study**

This research was limited to the SMEs and Information and Communication Technologies (ICT) use within Busia County.

### **Limitations of the Study**

Sourcing reliable data about entrepreneurship, ICT adoption, and business performance in Busia County was the main limitation.

### **Theoretical Framework**

This study drew on several applicable theoretical frameworks to show the relationships between SMEs' entrepreneurship and ICT in the context of Busia County.

### **Diffusion of Innovation Theory (DOI):**

According to Rogers' (2003) framework offers insights into how innovations (new technologies) are adopted by individuals and organizations over time. The process includes five stages: awareness, interest, evaluation, trial, and adoption. This perspective was important in studying how ICT spreads among Kenyan entrepreneurs.

### **Resource-Based View (RBV):**

According to Barney (1991), firms obtain a competitive advantage through unique resources and capabilities. This view is applicable in the context of this study in that such resources may include digital competencies, technological access, and innovative business models, which may explain the way ICT influences competitive positioning among Kenyan SMEs.

### **Conceptual Framework**

"A conceptual framework in research was used to understand a research problem and guide the

development and analysis of the research. It serves as a roadmap to conceptualize and structure the work by providing an outline that connects different ideas, concepts, and theories within the field of study” (Sing, 2023). The conceptual framework in this study serves as a visual representation of the variables and their interrelationships. It encapsulates the theoretical underpinnings of the research and the expected associations among variables.

The study focuses on the following components:

**Independent Variables:**

- **Organizational Culture:** A culture that prioritizes innovation, experimentation, and calculated risk-taking facilitates digital

transformation.

- **Leadership Commitment:** Active and sustained leadership support is critical for implementing digital change and mobilizing resources.
- **Digital Literacy:** The presence of employees with sufficient digital skills is fundamental for effective ICT integration.
- **Technology Infrastructure:** A Reliable and scalable technological infrastructure is essential to support digital initiatives.

**Dependent Variable:**

**SME Performance:** The primary outcome of interest is the performance of SMEs, particularly in terms of revenue growth.

**Figure 1: Conceptual Framework**

**Independent variables**

**Dependent Variable**



(Self-Conceptualization, 2024)

**METHODOLOGY**

**Research Design**

A correlational survey design was chosen because it quantifies the relationships between the aspects of digital transformation and SME entrepreneurial performance (Creswell & Creswell, 2018)

**Data Collection Methods**

A structured survey questionnaire will be administered to a sample of Kenyan SMEs to collect data on their ICT adoption, challenges, and perceived benefits.

**Sample Size Calculation using Cochran's Formula for Finite Populations**

This study employed Cochran’s Modified Formula for Finite Populations. From the population of 1800 SMEs and using this formula, a sample size of 317 was realized

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

Eq.1

N

Where:

- $n$  = final sample size for the finite population
- $n_0$  = sample size for infinite population (calculated in Step 1)
- $N$  = total population size (1800 SMEs)

Substituting the values:  $n = 1 + 1800 \cdot 384.16 - 1384.16$   
 $n = 1 + 1800 \cdot 383.16384.16$        $n = 1 + 0.212866384.16$   
 $n = 1.212866384.16$        $n \approx 316.74$

Rounding up to the nearest whole number for practical sampling, the suitable sample size is 317 SMEs.

**Data Analysis**

Data was analysed using SPSS v.22 statistical software. This was done using descriptive as well as correlation and regression analyses according to the study objectives.

**Ethical Considerations**

All ethical standards were maintained throughout the study. Informed consent was obtained from

every participant, and participant confidentiality was strictly safeguarded. The research adhered to the ethical guidelines established by relevant academic institutions and regulatory authorities.

**RESULTS**

This section outlines the results of the investigation into how digital transformation affects entrepreneurial performance among SMEs in Busia County, drawing on survey responses from 317 businesses.

**Respondents’ Demography**

The SMEs studied in Busia County displayed considerable diversity in their business models. Sole proprietorships constitute the majority, with partnerships forming a smaller section. Most of these enterprises had operated for between three to five years. The most prominent sectors represented included retail trade, agriculture, and service industries.

**Table 1: Demographic Profile of Respondents**

Characteristics	Frequency	Percentage (%)
<b>Business Type</b>		
Sole Proprietorship	185	58.4
Partnership	78	24.6
Limited Company	54	17
<b>Years in Operation</b>		
Less than 1 year	32	10.1
1-2 years	65	20.5
3-5 years	121	38.2
More than 5 years	99	31.2
<b>Primary Sector</b>		
Retail Trade	105	33.1
Agriculture	80	25.2
Services	72	22.7
Manufacturing	30	9.5

Source: Research Data (2025)

**Digital Transformation Adoption Levels**

The data clearly shows a wide spectrum of digital technology adoption among SMEs in Busia County. As depicted in Table 2, foundational tools like

mobile money platforms and social media marketing have become almost ubiquitous. In contrast, adoption rates of cloud computing and data analytics remained low. Table 2 captures these findings.

**Table 2: Percentage of SMEs Adopting Various Digital Technologies**

Digital Technology	Percentage of Adoption (%)
Mobile Money Services	85
Social Media Marketing	72
Online Marketplaces	58
Digital Payment Systems (Non-Mobile Money)	45
Cloud Computing	28
E-commerce Websites	22
Data Analytics Tools	15

Source: Research Data (2025)

**Descriptive Statistics for Study Variables**

Descriptive statistics are a summary and organized characteristics of a data set, usually used in

quantitative research (Bhandari, 2023), Table 3 presents the statistics for the study variables.

**Table 3: Descriptive Statistics**

Variable	N	Mean	Std.Deviation	Skewness	Kurtosis
<b>Independent Variables</b>					
Organizational Culture	317	3.95	0.82	-0.65	0.21
Leadership Commitment	317	4.10	0.75	-0.80	0.45
Digital Literacy (Employees)	317	3.70	0.90	-0.55	0.15
Technology Infrastructure	317	3.55	0.88	-0.40	0.05
<b>Dependent Variable</b>					
SME Entrepreneurial Performance (Revenue Growth)	317	12.5%	7.8%	0.35	-0.10

Source: Research (Data, 2025)

**Relationship between Independent Variables and SME Entrepreneurial Performance**

Regression analysis was employed to investigate how factors (organizational culture, digital literacy, leadership commitment, and technology infrastructure) influence the entrepreneurial performance of SMEs, specifically looking at revenue growth as the key outcome.

**Organizational Culture and SME Entrepreneurial Performance**

The data indicate a strong positive correlation between organizational culture and the entrepreneurial performance of SMEs ( $r=0.65$ ,  $p<0.001$ ). This means that Organizations that promote innovation, support experimentation, and encourage risk-taking consistently report greater revenue growth (Wato & Obuba, 2023). This result is consistent with Rogers’ (2003) Innovation Diffusion Theory, where a supportive organizational environment was significant in terms of the adoption of innovations, for example, digital



technologies in this case. Similarly, in a study by Zina, Arabeche *et al.* (2022) on Entrepreneurial Orientation, Organizational Culture and Business Performance in SMEs, the results also found that

Entrepreneurial orientation and organizational culture have a significant positive correlation with the business performance variable.

**Table 4: Correlation Matrix of Independent Variables and SME Performance**

Variable	SME Performance	Organizational Culture	Leadership Commitment	Digital Literacy	Technology Infrastructure
SME Performance	1				
Organizational Culture	0.65*	1			
Leadership Commitment	0.72*	0.70*	1		
Digital Literacy	0.68*	0.62*	0.65*	1	
Technology Infrastructure	0.60*	0.55*	0.58*	0.60*	1

\*Correlation is significant at the 0.01 level (2-tailed). Source: Research Data (2025)

**Leadership Commitment and SME Entrepreneurial Performance**

The results in Table 4 also indicate a strong positive correlation between leadership commitment and SME entrepreneurial performance ( $r=0.72$ ,  $p<0.001$ ). This means that in organizations where top leadership actively supports and allocates resources to digital transformation, performance tends to be higher. This finding supports the role of committed leadership in bringing change and successful digital innovations (McKinsey & Company, 2023; Nguyen *et al.*, 2021) similarly, Iqbal *et al.* (2021) assert that “Leaders of small and medium-sized enterprises should practice entrepreneurial orientation (innovativeness, proactiveness, and risk-taking) and transformation leadership to enhance the innovation performance of their firms”.

**Digital Literacy and SME Entrepreneurial Performance**

Digital Literacy and the SMEs' entrepreneurial performance also recorded a positive correlation at ( $r=0.68$ ,  $p<0.001$ ). Similar results were recorded by Kim & Jin (2024).

Other studies supporting these findings are by Elvira & Yusuf (2023), which focused on Digital Literacy and Firm Performance of Small and Medium Enterprises in Nairobi County, Kenya. The findings were that Digital Literacy significantly influences the Firm Performance of SMEs. With the diffusion of easy-to-use Web 2.0 tools, such as podcasts, blogs, and wikis, Mohammadyari & Singh (2015) assert that “e-learning has become a popular mechanism for individual training. While individuals use these tools in the hope that their training will improve their performance, this relationship is not a given.”

**Technology Infrastructure and SME Entrepreneurial Performance**

Finally, Technology Infrastructure recorded a positive correlation with SMEs' performance ( $r=0.60$ ,  $p<0.001$ ). This means that with more technological infrastructure in place, SMEs' performance may eventually become better. These findings are supported by studies on “Information Technology Infrastructure and Small and Medium Enterprises' in Iraq by Abdul Hayder & Mohammed *et al.* (2019), which found that IT infrastructure (IT connectivity, modularity, and personnel) had a positive effect on firm performance. Additionally,

Ahmed (2023) investigated the Impact of Technological Factors on Small and Medium Enterprise Performance 2023 and found a positive effect of the Technological Factor (TF) on Small and Medium-Sized Enterprises (SMEs) in Thailand

## DISCUSSION

The findings from this study provide robust evidence that digital transformation exerts a substantial influence on the entrepreneurial performance of SMEs in Busia County. The conceptual model, linking organizational culture, leadership commitment, digital literacy, technology infrastructure, and SME performance, demonstrates both coherence and relevance in this context.

Among the factors examined, leadership commitment and employee digital literacy emerge as central drivers of effective digital transformation. These results are similar to other studies that advocated for the importance of strong leadership as well as a digitally literate workforce in realizing the benefits of technological adoption (McKinsey & Company, 2023; Harvard Business Review, 2023). A culture that encourages innovation and risk-taking creates fertile ground for the adoption and integration of digital technologies. This result is consistent with Rogers' (2003) Innovation Diffusion Theory, where a supportive organizational environment was significant in terms of the adoption of innovations. "Leaders of small and medium-sized enterprises should practice entrepreneurial orientation (innovativeness, proactiveness, and risk-taking) and transformation leadership (articulating a compelling vision, focus on goal achievement, and creative problem solving) to enhance the innovation performance of their firms" (Iqbal *et al.*, 2021)

In summary, accessing new markets, broadening customer reach, and establishing new revenue streams (Harvard Business Review, 2023) may lead to improvements in entrepreneurial performance.

## CONCLUSION

This study concludes that digital transformation significantly impacts the entrepreneurial performance of SMEs in Busia County, Kenya, with organizational culture, strong leadership commitment, digital literacy of employees, and access to technology infrastructure emerging as key drivers.

## RECOMMENDATIONS

Drawing on these findings regarding the impact of digital transformation on SME entrepreneurial performance in Busia County, the following recommendations are proposed:

For Policymakers and Government Agencies (Busia County Government, Ministry of ICT, and KNCCD):

- With institutions such as Alupe University and local vocational centres, significant investment should be directed toward comprehensive digital literacy and skills training for SME owners and employees should be encouraged. Such Collaboration would broaden both outreach and impact.
- Improvements in reliable, affordable, and high-speed internet connectivity, particularly in rural and peri-urban areas, should be prioritized.
- Customized financial products such as digital transformation funds should be developed and promoted to enable SMEs to invest in digital technologies and capacity-building.

These measures, if implemented, may strengthen the environment for the digital transformation, thereby strengthening the SMEs in Busia County, leading to improved entrepreneurial performance and overall competitiveness.

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