

## Original Research Article

# Technology Orientation and Performance of Micro-Enterprises in Kisumu County, Kenya

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**Abstract:** Micro-enterprises play a critical role in employment creation, poverty reduction, and economic development in many developing countries including Kenya. However, despite their contribution to the economy, many micro-enterprises struggle to achieve sustainable growth due to limited access to resources, low levels of innovation, and inadequate technological capabilities. Technology orientation has been identified as a strategic capability that can enhance organizational performance by improving innovation, operational efficiency, and customer engagement. This study examined the effect of technology orientation on the performance of micro-enterprises in Kisumu County, Kenya. The study adopted a descriptive survey and correlational research design. The target population comprised 22,000 micro-enterprises operating in Kisumu County, from which a sample of 384 respondents was selected using stratified and simple random sampling techniques. Data were collected using structured questionnaires and analyzed using descriptive statistics and regression analysis. The findings revealed that technology orientation has a significant positive effect on micro-enterprise performance ( $\beta = 0.442$ ,  $p < .001$ ). The regression model explained 55.6% of the variance in enterprise performance ( $R^2 = .556$ ). The study concludes that technology orientation significantly improves innovation capability, operational efficiency, and market competitiveness among micro-enterprises. The study recommends increased technological adoption, digital training programs, and policy support to enhance the competitiveness of micro-enterprises.

**Keywords:** Technology Orientation, Micro-Enterprises, Enterprise Performance, Innovation Capability, Strategic Orientation.

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## BACKGROUND OF THE STUDY

Micro-enterprises are widely recognized as an important driver of economic development in many countries. They contribute significantly to employment creation, income generation, and poverty reduction (Acs & Audretsch, 2018). In Kenya, the micro and small enterprise sector accounts for a substantial share of total employment and supports livelihoods for millions of households (Kenya National Bureau of Statistics [KNBS], 2022).

In Kisumu County, micro-enterprises operate in sectors such as retail trade, services, small-scale manufacturing, and agriculture. These enterprises play a significant role in supporting local economic activities and improving household incomes. However, despite their importance, many micro-enterprises face numerous operational challenges including limited access to finance, low managerial capacity, inadequate

infrastructure, and limited technological capabilities (World Bank, 2021).

Technological capability has become an important factor influencing business competitiveness in the modern economy. Rapid advancements in information and communication technologies (ICT), digital platforms, and automation tools have transformed how businesses operate and compete. Firms that adopt technology-oriented strategies are better positioned to improve efficiency, expand market reach, and respond to changing customer needs (Porter, 2008).

## OBJECTIVE OF THE STUDY

To establish the effect of technology orientation on the performance of micro-enterprises in Kisumu County, Kenya.

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### Theoretical Literature Review

The Resource-Based View theory suggests that firms achieve competitive advantage when they possess unique resources and capabilities that are valuable, rare, and difficult to imitate (Barney, 1991). Technological capabilities represent an important category of strategic resources. Firms that develop technological capabilities are able to innovate, improve efficiency, and enhance customer value creation.

Environmental Strategy-Performance theory emphasizes the need for firms to align their strategies with environmental conditions. Technological change is one of the most important environmental forces shaping business operations. Firms that adopt technology-oriented strategies are more likely to achieve improved performance outcomes (Porter, 2008).

### Conceptual Framework

The conceptual framework for this study illustrates the relationship between technology orientation and the performance of micro-enterprises. Technology orientation is considered the independent variable, while micro-enterprise performance represents the dependent variable.

Technology orientation reflects the extent to which micro-enterprises adopt and utilize technological tools and innovations to improve their operations and competitiveness. In this study, technology orientation was measured using four indicators: adoption of information and communication technologies (ICT), technological innovation, responsiveness to technological changes, and technological capability development. These elements represent the strategic efforts made by enterprises to integrate technology into their business activities.

Micro-enterprise performance was measured using four indicators: profitability, customer satisfaction, service quality, and market share. These indicators capture both financial and non-financial aspects of enterprise success.

The framework assumes that enterprises with stronger technology orientation are more likely to improve operational efficiency, enhance service delivery, and respond effectively to market changes. As a result, improved technology orientation is expected to lead to higher profitability, improved customer satisfaction, better service quality, and increased market share.

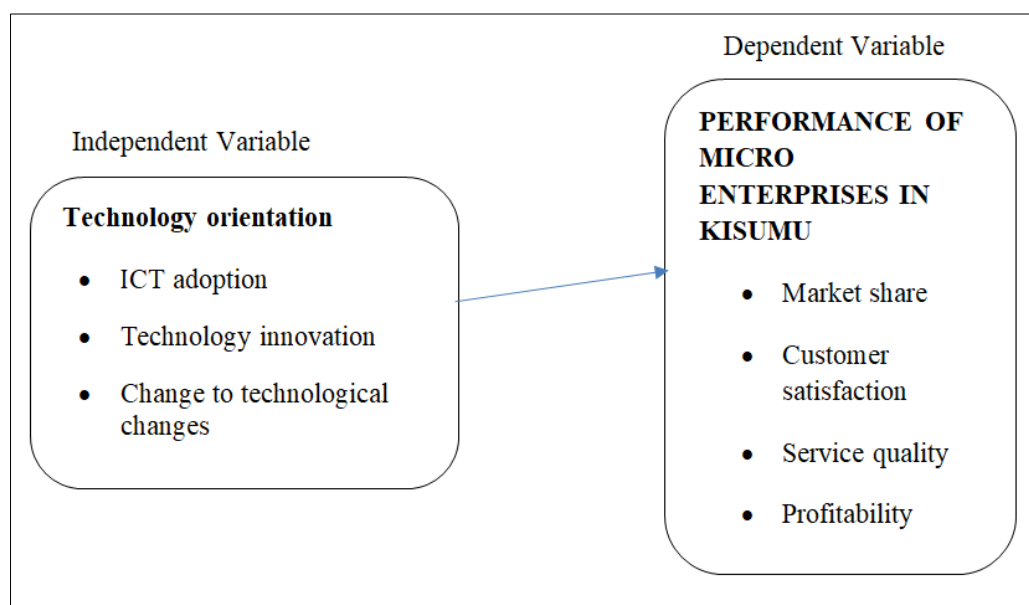


Figure 1: Conceptual Framework

### EMPIRICAL LITERATURE REVIEW

Several empirical studies have examined the relationship between technological orientation and firm performance. Chege and Wang (2020) found that technological innovation significantly improves productivity and environmental sustainability among SMEs in Kenya. Similarly, Laban and Deya (2019) reported that strategic innovation significantly influences firm performance in the ICT sector in Nairobi.

Rosenbusch, Brinckmann, and Bausch (2011) conducted a meta-analysis of innovation and firm performance and found that innovation-oriented firms tend to achieve higher growth rates and competitive advantage. Additionally, Wanjiru, Kabata, and Wambugu (2022) established that technology adoption improves service efficiency and operational performance among insurance firms in Kenya.

Despite these findings, most studies focus on large enterprises or formal SMEs. Limited research has

examined the influence of technology orientation on micro-enterprises operating within informal economic environments. This study therefore contributes to the literature by examining the effect of technology orientation on micro-enterprise performance in Kisumu County.

## RESEARCH METHODOLOGY

The study adopted a descriptive survey and correlational research design. The target population consisted of 22,000 micro-enterprises operating in Kisumu County. A sample size of 384 respondents was selected using stratified sampling followed by simple random sampling. Data were collected using structured questionnaires and analyzed using descriptive statistics and regression analysis.

## RESULTS AND DISCUSSION

The objective of the study was to establish the effect of technology orientations on the performance of micro-enterprises in Kisumu County. In this regard, technology orientation was found to have significant positive influence on performance (B=0.442, p=.000) thereby rejecting the second null hypothesis H<sub>02</sub>, which states that technology orientation does not significantly

affect performance in MEs in Kisumu County. This means that a unit change in technology orientation will cause 0.442-unit change in performance and the change is significant. This implies that technology orientation is a significant predictor of performance in MEs in Kisumu County.

The finding that technology orientation practices exert significant positive influence on performance has received some support from theoretical literature as well as past empirical studies. For instance, Wanjiru (2022) conducted a study on the effect of market orientation on performance of insurance companies in Kenya and found a positive significant effect on performance. All studies by (Ngetich, 2030; Chege, 2020; Laban, 2019) reported a similar result. Furthermore, the above studies have all focused in other context such as customers interacting with the company, textile industry, pharmaceutical industry and Tea Company, which is different from and not related to MEs. Consequently, the effect of technology orientation on performance of MEs in Kisumu County is not known. By contrast, the current study made a significant milestone and contribution to knowledge by hypothesizing, isolating and testing the effect of variables like technology orientation on performance of MEs, an area hitherto not explored by previous scholars.

**Table 1: Descriptive Statistics for Technology Orientation**

Variable	Mean	Std. Deviation
Technology Orientation	3.79	1.026

**Table 2: Model Summary**

R	R Square	Adjusted R Square
.746	.556	.551

**Table 3: ANOVA Results**

Source	Df	F	Sig.
Regression	3	156.42	< .001

**Table 4: Regression Coefficients**

Variable	Beta	Sig.
Technology Orientation	0.442	< .001

## CONCLUSION

The study established that technology orientation significantly influences the performance of micro-enterprises in Kisumu County. Enterprises that adopt technological innovations are able to enhance operational efficiency, improve customer engagement, and increase competitiveness.

## RECOMMENDATIONS

The study recommends the following:

1. Micro-enterprise owners should invest in digital technologies such as mobile payment systems and online marketing platforms.

2. Government agencies should provide training programs aimed at improving digital literacy among micro-enterprise owners.
3. Financial institutions should develop financing programs to support technology adoption among small business.

### Author Contributions

Eugenia Addah Muma conceptualized the study, conducted data collection, performed data analysis, and prepared the manuscript.

### Acknowledgement

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#### **Conflict of Interest Declaration**

The author declares that there is no conflict of interest regarding the publication of this research.

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