

# Effect of Literacy in Mobile Money Services on Financial Performance of Women Owned Enterprises in Nakuru Town East Sub-County in Kenya

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**Abstract:** *Women entrepreneurship is a key pillar to innovation and development of products that can contribute largely to social or environmental challenges that may result to economic competitiveness and growth. However, women face challenges which are cultural, social and economic in nature in their endeavors. Moreover, financial literacy gaps in women businesses is a challenge that has potentially impaired their ability to make sound and informed financial investment decisions. As such, this study was seeking to examine the effect of literacy in mobile money services on women group enterprises financial performance in Nakuru town east sub-county in Kenya. The study was anchored on financial literacy theory. A cross sectional research design was adopted with a target population of 298 women groups in Nakuru town East sub-county. A sample of 128 chairpersons of the women groups calculated using the Nassiuma's formula was engaged in the study. Questionnaires were used as the primary data collection instruments. Collected data was analyzed with the aid statistical package for social sciences (SPSS) version 24. The study established strong positive significant relationship between literacy in mobile money services and the financial performance of women group enterprises. The study recommended that the women groups leadership should enhance their literacy in mobile money services to enhance their efficiency in their business which will spur improvement in the financial performance of their enterprises.*

**Keywords:** Literacy, Mobile Money, Financial Performance. Women Groups, Enterprise

## I. Introduction

Gichuhi and Mwangi [9] indicated that women face grave problems that are cultural, social, and economic. However, when they band themselves together in women groups, they can improve their economic status [7]. Groups have emerged as strong financial intermediaries [5]. A great percentage of women cannot receive sophisticated financial products from microfinance institutions since they do not meet a lot of banking requirements for example, they do not have the necessary collateral for the loans they want to take [9]. Women have therefore resulted in the use of self help groups (SHGs) for providing money, saving and lending for a return [5]. People have organized themselves informally for the purpose of saving and borrowing from one another, the groups are often comprised of persons with close social relations with each other [7].

The women investment groups spurs innovation and fosters productivity that goes a long way in enhancing the economy of the country [34]. According to Orobia et al. [32] women investment groups fosters an inclusive economy. Entrepreneurship provides women with earning power while assuring their ability to prosper independently, reducing their insecurity about their ability to care for their children, and thus encouraging other women to pursue personal, economic, or even political autonomy, to make autonomous choices and to stand up for themselves and their lifestyle [31].

Though entrepreneurial sustainability of women investment groups and businesses is integral to economic sustainability they are severely faced by a number of challenges in the quest of seeking entrepreneurial sustainability. In most of studies like that of Andriamahery and Qamruzzaman [2], financial literacy gaps in women businesses is a growing concern that has potential to impair their ability to make sound and informed investment decisions. This was attributed to the fact that women had limited opportunities to financial education programs resulting to knowledge gaps in their general understanding of financial concepts and investment strategies required to run highly competitive

businesses. This culminated with the fact that most women are risk-averse and have a high preference of investments with relative risks can result to diminishing returns or missed opportunities for wealth creation, which can significantly put the sustainability of their investments in jeopardy [40]. According to Itonga et al. [14], in as much as women-owned businesses offer a positive outlook, this is not the case as anticipated in Kenya. Women-owned businesses perform dismally mainly due to poverty, financial literacy and most important access to credit. Additionally, 60% of women-owned businesses failure in Kenya can be traced to lack of continuity in stock.

Financial performance, encompassing aspects of profitability, liquidity, and capital structure, is a key measure of the financial situation of a small or medium enterprise (SME) [22]. Indicators such as return on assets (ROA), inventory turnover, and debt to equity ratio are commonly employed to gauge SMEs' financial health [35]. Recognizing the financial performance of Women-owned enterprises is essential for evaluating their impact on economic development, as their success in terms of profitability and efficient resource utilization directly influences broader economic growth and sustainability. In Kenya, the growing recognition of women-owned enterprises is pivotal to the nation's remarkable economic growth.

During the pandemic most women businesses in most sectors faced closures and declining consumer demands. Women in Kenya face harmful cultural practices such as female genital mutilation (FGM), forced early marriages, food taboos and sex violation which may negatively impact on women operated businesses, the marital status, family characteristics and responsibilities of women entrepreneurs family roles, financial responsibilities and spouse's support for the married, gender roles among others have a correlation to performance [10]. The vulnerabilities facing most women investment was brought to limelight during this period; and the most recurring problem that surfaced is that there exist substantial financial literacy gaps among these women groups that predispose them to financial performance challenges [1]. Women Entrepreneurs in Kenya face socio-economic bottlenecks in running their businesses, their enterprises are likely to lag behind as compared to their male counterparts.

Despite their growth and the increasing support from government initiatives such as the Women Enterprise Fund (WEF) and Uwezo Fund, many women groups continue to face financial sustainability challenges. These challenges include poor record-keeping, low return on investments, loan defaults, and limited access to formal financial services [5]. One of the underlying contributors to these issues is inadequate financial literacy among members. A lack of understanding of basic financial principles often leads to poor financial planning, mismanagement of funds, and the failure of income-generating projects [4].

Research indicates a strong correlation between financial literacy and financial performance among small and medium enterprises, including women-led groups. According to Wangui [36], financially literate women are more likely to manage group funds prudently, reduce financial mismanagement, and improve the profitability of group ventures. Financial literacy also contributes to transparency, accountability, and better group cohesion in managing financial decisions. Nakuru Town East Sub-County presents a dynamic environment for women groups due to its rapidly urbanizing population and growing informal sector. Despite opportunities for growth, local women groups often face financial sustainability challenges due to inadequate skills in budgeting, saving, debt management, and risk assessment. These issues are exacerbated by the limited access to formal financial education and a lack of targeted financial training programs tailored to grassroots groups.

## **II. Statement of the Problem**

In a report by Women Financial Inclusion Data [39] partnership focusing towards women financial inclusion in Kenya noted that Kenya had made significant strides in crossing the gender gap in financial inclusion. However the report noted that the gap still remained high at 13.3% between women in urban centers and women in rural areas. Moreover, the report noted that while 50.2% of men are able to use financial services provided by the banks, only 38.3% of women are able to access the bank services. Midamba [26] observed that women entrepreneurs in Kenya had a challenge accessing credit facilities due to financial literacy and bureaucratic processes. Nyamagwa, Okemwa and Wanjama [31] observed that low level of financial literacy or lack of them among small scale women entrepreneurs inhibited their financial performance hence diminishing their economic success. Several studies have been undertaken to examine financial literacy and financial performance of women owned enterprises. Mukoswa [28] examined financial literacy and performance of women owned SMEs in Garissa county Kenya. Kinyanjui and Ocholla [18] assessed financial literacy amongst women entrepreneurs for economic empowerment in Kenya. Further Wangui [36] examined financial literacy and growth of women groups in Kenya a case of joyful women groups in Kajiado County. Despite these studies being done, hardly any of them looked at financial performance of the women group entrepreneurship and financial literacy

and specifically in Nakuru town East Sub-County. Moreover, there exists a methodological gap in how financial literacy is assessed and linked to performance outcomes. Many studies rely on self-reported financial knowledge without validating actual practices or linking them to measurable financial indicators such as group savings growth, loan repayment rates, or return on group investments. In Kenya, studies such as Kurii and Ngahu [21] and Wanjiru and Jagongo [37] have acknowledged these limitations and called for more empirical research that uses quantitative data to assess financial literacy in group settings. This study was seeking to fill this gap by examining the effect of financial literacy on financial performance of women owned enterprises in Nakuru town east Sub-county in Kenya.

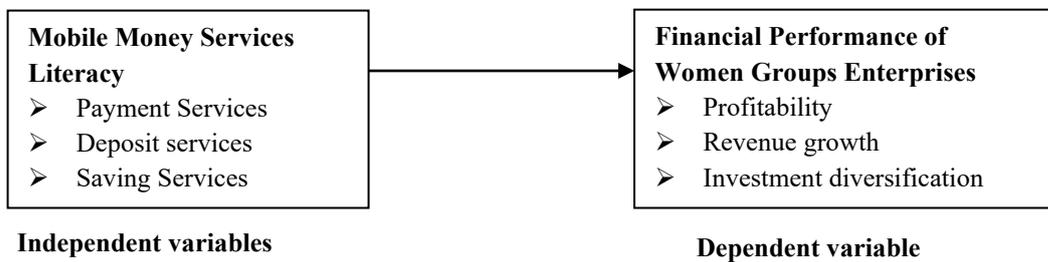
### III. Purpose of the Study

The study was seeking to examine the effect of literacy in mobile money services on financial performance of women owned enterprises in Nakuru town east sub-county in Kenya.

### IV. Hypothesis of the Study

H<sub>0</sub>: Literacy in Mobile money services has no statistically significant effect on women owned enterprises financial performance in Nakuru town east sub-county in Kenya.

### V. Conceptual Framework



### VI. Financial Literacy Theory

According to this theory, financial knowledge is an investment in human capital, and numerous empirical studies show that people need to know much more to become informed, according to Gallery, Newton, and Palm's [8] framework. The authors demonstrate how financial literacy impacts monetary results. They end by discussing the need for more study to help theoretical, empirical, and governmental models be better informed. According to dual-process theories, the behavior of those with a high level of financial literacy may be influenced by how frequently intuition and cognition are used as modes of thought. Dual-process theories [12] support the notion that both intuitive and cognitive processes can influence decisions.

Dual-process theories have been researched and used in many different areas, such as social cognition and reasoning [12]. Financial literacy still remains a fascinating topic in both developed and developing countries, and has attracted a lot of attention lately given how quickly the financial landscape is changing. Financial literacy is the ability and confidence of investors to appreciate financial risks and opportunities, to make informed decisions, to know where to turn for help, and to take other effective actions to improve their financial well-being [3]. Financial literacy assists in educating and empowering investors so that they are aware about finance in a way that is pertinent to their business and can use this information to assess products and make wise decisions.

More financial literacy is generally believed to aid in resolving current issues in advanced credit markets [23]. Financial literacy equips investors with the tools they need to weather difficult economic times by employing risk-reduction techniques including saving money, diversifying their holdings, and buying insurance. Financial literacy makes it easier to make decisions that will promote livelihoods, economic progress, stable financial systems, and the decrease of poverty. These decisions include timely bill payment and good debt management. Additionally, it gives one more control over their financial future, allows them to use financial services and products more effectively, and makes them less susceptible to enthusiastic salespeople or dishonest schemes. In this regard the theory derives relevance in this study as it helps draw the interlink between financial literacy and the financial performance of women owned enterprises in Kenya.

### VII. Literacy in Mobile Money Services

Mobile money is referred to as the creative use of mobile phones to access credit, remittances, insurance, etc. [29]. It is a widely used fintech application that allows individuals to use mobile phones to make financial transactions; including making payments from an account that is not a traditional bank account. In the case of mobile money, a mobile phone is

linked to a cash pool that has been pre-funded and can be used to make payments. It is like what m-banking offers but without requiring access to a full banking service. Thus, it facilitates financial inclusion for those who may otherwise be unable to access credit or transfer remittances.

A study by Hasan, Masroor, Nabi and Dana [11] assessed financial inclusion and literacy for sustainable growth of female micro entrepreneurs in Bangladesh. The study adopted a qualitative approach. Semi-structures and open-ended interviews were used for data collection from five female micro-entrepreneurs. The interviews were recorded, transcribed, and coded using NVivo-14 software for analysis. The study also employed an in-depth case study approach to provide contextual insights. The findings of this study highlight the transformative role that technologies like agent banking and mobile financial services (MFS) have played in expanding financial access by increasing convenience and reducing transaction costs.

Islam and Muzi [13] in a World Bank group study examined mobile money and investment by women businesses in Sub-Saharan Africa. The study sought to connect two important findings in Sub-Saharan Africa including that the use of digital technologies such as mobile money have become widespread and that women owned business in the region significantly lag their male counter parts in capital investments. Applying data for 16 Sub-Saharan African economies, the study connected the two findings by exploring whether mobile money use by women-owned firms increases their investment. The study established that the positive relationship between mobile money use and investment is largely driven by women owned firms and statistically insignificant for men-owned firms. Women-owned firms that use mobile money to transact with suppliers are more likely to invest. Mobile money also seems to facilitate greater provision of customer credit and generally greater demand for more credit by women-owned firms. Such patterns are not observed for men-owned firms.

Macharia [25] examined mobile money banking and financial inclusion among women entrepreneurs in Nairobi City County in Kenya. The study sought to find out the impact of portable deposits and savings, mobile payment platforms and mobile money transfers on financial inclusion among women entrepreneurs in Nairobi City County in Kenya. The study focused on businesses such as art, groceries, clothes and carpentry among other small scale businesses. A sample of 204 respondents was selected from a target population of 5339 registered women entrepreneurs. Interviews were conducted and questionnaires distributed for primary data collection. The study established that mobile loans, savings and deposits, payment platforms and mobile transfers significantly and positively impact financial inclusion of women entrepreneurs in Nairobi City County, Kenya.

A study by Kim [16] assessed the impact of mobile money on improving the financial inclusion of Nairobi women. The paper assessed the extent and in what ways mobile money affected the financial inclusion of women in Nairobi. The paper demonstrated how mobile money had significantly decreased the proportion of women in Nairobi excluded from using financial services. Drawing upon survey work conducted by the researcher across eight areas of Nairobi, the research revealed how mobile money had enabled women to benefit from instant remittance and payment services and offered means of storing money safely an attribute particularly valued by younger women and those with lower levels of educational attainment and income. The study observed that although mobile money does not address many of the structural drivers of gendered financial inequality, it has improved the levels of financial inclusion by increasing women's access to various financial channels from which they were previously excluded.

In her study, Kimana [17] examined the impact of mobile technology on women entrepreneurs in Nairobi, Kenya. The study applied a qualitative research design targeting women entrepreneurs to identify the mobile phone-based money services utilized by the entrepreneurs and the challenges faced in the use of these technologies. The study employed semi structured interviews in the collection of qualitative data. The study established that the mobile phone-based money has led to the growth of small and medium enterprises (SMEs) because of its efficiency and reliability. Moreover, the challenges faced by women in the utilization of mobile money technology and mobile phone-based money services included high transaction costs, human errors, and lack of internet access.

### **VIII. Financial Performance of Women Owned Enterprises**

In their study, Wanyoike and Muturi [38] examined the influence of informal financing on financial performance of women owned enterprises in Nairobi County in Kenya. The study's objectives aimed to assess Trade credit financing, interpersonal borrowing, private money houses borrowing and community co-operatives borrowing as factors that affect the performance of women-owned SMEs. A descriptive survey was utilized with a sample of 376 respondents and stratified random sampling was used in selection of the respondents. Questionnaires were mainly used to collect data

which was analyzed using SPSS version 25. From the findings, the coefficient of multiple determinations was 0.413; implying that 41.30% of the variation in financial performance of women owned enterprises is explained by informal financing. The researcher concludes that informal financing play a key role in providing access to credit through trade credit financing, interpersonal borrowing finance and through private money houses. The researcher recommends further studies to be carried out to assess the skills of women owned businesses and their ability to run them effectively.

Oyugi [33] assessed microfinance services and financial performance of women owned enterprises in Migori Township in Kenya. The study specifically sought to establish the effect of loan facilities, saving services, capacity building and market facilitation on financial performance of women owned enterprises in Migori Township, Kenya. The study used descriptive research design with a target population of 1281 women owned enterprises in Migori Township. The study applied stratified random sampling technique. A sample of 296 women owners of registered enterprises in Migori Township was taken as respondents. The collected data was qualitative and quantitative in nature. The study concluded that the selected microfinance services which included credit facilities, savings services, capacity building services and market facilitation were to a significant extent offered by the MFIs in the area and had a positive effect on the performance of women-owned enterprises. The study recommends that the women-owned enterprises need to embrace the microfinance services offered by MFIs in the area to propel them to peak performance. The study recommends that the MFIs need to train and mentor the enterprises on financial management and credit use before extending the credit services to improve ability of them to repay and use the resources well.

Kalama and Mutswenje [15] examined microfinance services and financial performance of small scale women owned enterprises in Kilifi County in Kenya. Specifically, the study sought to determine whether access to credit, financial literacy training, and savings mobilization have influence on the financial performance of small-scale women enterprises in Kilifi County, Kenya. The study used an exploratory research design with a population sample of 350 out of 1286 registered women entrepreneurs in Kilifi County. Both primary and secondary data were collected using self administered questionnaires while Multiple linear regression was used to analyze data. The study found that obtaining credit and savings mobilization had a statistically significant effect on the financial performance while financial literacy training had no statistically significant effect.

Kiptoo, Bogonko and Wanza [19] examined the influence of financial support services on the financial performance of women owned enterprises in Eldoret Kenya. The study targeted a population of 1721 which constituted of women who owned enterprises and were registered with the county government of Uasin Gishu County. A sample size of 313 was obtained using the Krejcie and Morgan formula and applying simple random sampling to select the sample. Questionnaires were used to collect data. The results showed that there was no significant influence of financial support services on financial performance of women-owned enterprise. From the study, it was observed that the financial performance of the women-owned enterprises in Eldoret improved due to the increase in the net profit, current, inventory turnover and times interest earned ratio. The study concluded that multiple loan products and favorable loan terms helps boost the financial performance of women owned enterprise. The study recommended that microfinance institutions should restructure the collateral and interest requirements by the women entrepreneurs by using credit scoring and business history as alternatives to asset-based security.

Maalim [24] examined financial literacy and financial performance of women owned small and medium enterprises in Mandera County Kenya. The study sought to examine the effects of bookkeeping literacy, financial planning literacy, and debt management literacy on the financial performance of SMEs of women-owned SMEs in Mandera County. The design used was the descriptive design. The target population of the study was the owners and managers of the women-owned SMEs in Mandera County. A sample size of 385 was assessed using questionnaires. Quantitative analysis was used to analyze data. The study findings established that women-owned SMEs in Mandera County have never prepared any budget in the last five years. Additional study findings established that majority of the women-owned SMEs that prepared budgets, do it annually, while a majority of the women-owned SMEs that prepare budgets, prepare material budgets. Further study findings implied that the female-owned SMEs exhibit to a great extent financial planning literacy. The study established that training on bookkeeping skills influenced to a very great extent the financial performance of female-owned SMEs. The findings also established that access to banking services skills have influenced the financial performance of female-owned SMEs to a very great extent. The study findings also established that the financial performance of the female-owned SMEs in Mandera County was excellent. Additional study findings established that financial literacy significantly impacts financial performance. Study results that showed a favourable connection between financial literacy and financial success, but not a substantial one, concluded. Furthermore, the research results demonstrated that good bookkeeping literacy was linked to both financial well-being and profitability. Results showed that bookkeeping literacy has no meaningful connection to financial success.

**IX. Research Methodology**

**9.1 Research Design**

The researcher adopted a cross sectional research design that is unrestricted which as defined by Devin [6] is an attempt to explore and explain a topic in the dark while creating a fuller picture of the topic in a single point in time. The target population for the study was 298 women groups engaged in entrepreneurial activities in Nakuru Town East Sub-county in Kenya. The study employed the Nassiuma [29] formula for calculating sample size n from a population N as follows.

$$n = \frac{NC^2}{C^2 + (N - 1)e^2}$$

Where

n - Sample size,

N - Study total population

C= Coefficient of variation set at 0.6 (Nassiuma, 2000) and

e = Error margin

Substituting these values in the equation, estimated sample size (n) will be

$$n = \frac{298 \times 0.6^2}{\{0.6^2 + (298 - 1)0.02^2\}}$$

n=128.44≈128

**9.2 Data Collection Instruments**

The main data collection instrument which was used in this study was questionnaires which contained close ended questions with the quantitative section of the instrument utilizing a 5-point Likert-type scale format. According to Kothari [20] the information obtained from questionnaires is free from bias and researchers influence and thus accurate and valid data is gathered. The questionnaire was pilot tested to determine its validity and reliability before the actual data collection.

**X. Findings and Discussions**

**10.1 Response Rate**

A total of 128 questionnaires were distributed to the respondents for the purposes of data collection. As such 95 questionnaires were correctly filled and were deemed appropriate for data analysis after the sorting out process. This represented a response rate of 74.2% which was characterized as very good [27].

**10.2 Literacy in Mobile Money Services**

The study further sought to examine the respondents’ views in regard to their knowledge in mobile money services. The means and standard deviation values were established to help in this regard. The results from the analysis were as presented in Table 1

**Table 1: Descriptive Statistics on Mobile Money Services Literacy**

	N	Min	Max	M	StD
The use of mobile money services have enabled efficiency in managing our business	95	1	5	2.81	1.232
We adopt mobile payments in our business transactions	95	1	5	2.66	1.243
Mobile services provide a deposit platform for our members	95	1	5	2.61	1.232
Mobile deposits help galvanize resources for our investments	95	1	5	2.21	1.245
Mobile money services enable us to save in the savings account	95	1	5	2.07	1.378
We are also able to access loans through mobile money services	95	1	5	2.06	1.382

From the analysis, respondents were unsure (M=2.81, SD=1.232) on whether the use of mobile money services had enabled efficiency in managing their business. Conversely, they were indifferent (M=2.66, SD=1.243) on whether they adopt mobile payments in their business transactions and that mobile services provided them a deposit platform for their members (M=2.61, SD=1.232). However, respondents disagreed (M=2.21, SD=1.245) that mobile deposits help galvanize resources for their investments and that mobile money services enable them to save in savings account (M=2.07, SD=1.378). They also disagreed (M=2.06, SD=1.382) that they are also able to access loans through mobile money services. However, the respondents views were very diverse with all the variables registering standard deviation values greater than one.

**10.3 Financial Performance**

Additionally, the study sought to assess respondents’ views in regard to the financial performance of women group enterprises in Nakuru town east in Kenya. The means and standard deviation values were established. The results from the analysis were as presented in Table 2

**Table 2: Descriptive Statistics on Financial Performance**

	N	Min	Max	M	StD
Our profit margin has been on the increase for the last five years	95	1	5	2.41	1.242
Group members have been instrumental in enhancing our business profitability	95	1	5	2.46	1.262
Our sales turnover has also been on the rise for the last five years	95	1	5	2.33	1.308
Enhanced financial literacy has helped in our sales performance	95	1	5	2.48	1.270
We have always diversified our investments in different economic sectors	95	1	5	2.05	1.188
Our businesses have been growing systematically for the last five years	95	1	5	2.01	1.216
Valid N (listwise)	95				

The findings in Table 2 indicated that the respondents disagreed with all the items in relation to financial performance. Respondents disagreed (M=2.41, SD=1.242) that their profit margins have been on the increase in the last five years and that their group members had been instrumental in enhancing their business profitability (M=2.46, SD=1.262). On the other hand, respondents disagreed (M=2.33, SD=1.308) that their sales turnover had also been on the rise for the last five years and that enhanced financial literacy had helped in their sales performance (M=2.48, SD=1.270). Moreover, they disagreed (M=2.05, SD=1.188) that they had always diversified their investments in different economic sectors and that their businesses had been growing systematically for the last five years (M=2.01, 1.216). All the items had standard deviation values greater than one indicating that the respondents were not cohesive in their views.

**10.4 Relationship between Literacy in Mobile Money Services and Financial Performance**

The study undertook correlation analysis to establish the association between literacy in mobile money services and the financial performance. Pearson correlation coefficient was utilized in this regard. The composite mean scores of the independent variable were correlated with the composite mean scores of the dependent variable. The findings from the analysis were as presented in Table 3

**Table 3: Correlation between Literacy in Mobile Money Services and Financial Performance**

		Literacy in Mobile Money Services
Women Group Enterprises	Financial Pearson Correlation	.905**
Performance	Sig. (2-tailed)	.000
	N	95

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

Findings further demonstrated the existence of a very strong positive and statistically significant (r=.905, p=.000) relationship between literacy in mobile money services and the financial performance of women groups associated enterprises. This means that, the more the knowledge in mobile money services, the better the financial performance of women group affiliated enterprises. As such, the null hypothesis that literacy in mobile money services have no statistically significant effect on women owned enterprises financial performance was rejected. In affirmation to these findings, Hasan et al. [11] determined that mobile financial services have enabled expansion of the financial access of female enterprises as well as increasing convenience and reducing transaction costs. Further, Macharia [25] determined that mobile money banking significantly and positively affects the financial inclusion of women entrepreneurs.

**XI. Conclusions and Recommendations**

The study established that adoption of mobile money services enhances the efficiency of the business transactions. Moreover, mobile money services provides women groups with alternative sources of loans to finance their businesses. As such the study concluded that literacy in mobile money services is a significant determinant of the financial performance of women group enterprises in Nakuru east sub-county. The study recommended that women groups members and their leadership should enlighten themselves on the mobile money services and employ them in their business. Mobile money services would enable them make the enterprise's transactions efficient. Moreover, mobile money payment services enables effective auditing of the revenue generation and thus enhance the financial performance of the enterprises.

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