

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Effect of Mobile Money Services on Financial Accessibility in Rwanda: Case Study of Tumba Sector

Keffah Ndahunga

School of Business Management and Economics, Department of Finance, at the University of Kigali.

ABSTRACT

The research explores the influence of mobile money services on financial accessibility in Rwanda, with a specific focus on the Tumba Sector in Rulindo District. As mobile money services continue to grow in global popularity and their ability to improve financial inclusion, this study aims to fill a significant knowledge gap by examining their impact at a local level. Using a research design that combines quantitative and qualitative methods, the study examines the connections between mobile money services, such as money transfer and interconnectivity services, and financial accessibility. Based on data obtained from a study of 100 active MTN-MoMo subscribers, it was found that there are strong positive connections between both types of mobile money services and financial accessibility. Further analysis through regression also confirms the significant impact of these services on financial accessibility, with interconnectivity services having a particularly strong influence. These findings reject the idea that these services have no impact, and instead show that both money transfer and interconnectivity services play important roles in improving financial accessibility in the Tumba Sector. The study highlights the significance of mobile money services in promoting financial inclusion and offers valuable insights for policymakers, financial institutions, and stakeholders working towards enhancing financial accessibility in Rwanda and beyond.

Keywords: Mobile Money Services, Financial Accessibility, Rwanda, Tumba Sector, Case Study

1. INTRODUCTION

In recent years, mobile money services have gained significant traction as a powerful tool for promoting financial accessibility in many countries, worldwide. Mobile money services enable individuals to access a range of financial services using their mobile phones, providing a convenient and secure alternative to traditional banking channels (Enock, 2021). Financial accessibility, defined as the access and usage of financial services by individuals and businesses, is a crucial element in promoting inclusive economic growth and reducing poverty worldwide. However, a significant portion of the global population remains excluded from formal financial systems, limiting their opportunities for economic advancement and financial security. This technology has gained traction in various regions, particularly in developing countries, where traditional banking infrastructure is limited (Demirgüç-Kunt & Klapper, 2012).

Mobile money services leverage the widespread adoption of mobile phones, providing an opportunity to reach individuals who may not have access to traditional banking services (Alexander, 2010). Several countries have implemented mobile money initiatives to enhance financial accessibility. These initiatives have shown promising results, indicating a positive effect on access to financial services, increased savings, and improved economic opportunities for individuals and small businesses (Enock, 2021).

Through the identification of common patterns, challenges, and success factors, this study aimed to contribute to the existing body of knowledge on mobile money and financial accessibility, providing valuable insights for policymakers, financial institutions, and stakeholders in the global financial ecosystem (Rahman, *et al.* 2021). African countries, recognizing the potential of mobile money services to drive financial accessibility, have implemented regulatory frameworks and policies to encourage the growth of this sector. Mobile network operators and financial institutions have collaborated to establish robust mobile money ecosystems, expanding the reach of financial services to previously underserved populations (Mounier, 2014).

Understanding the extent to which mobile money services have improved access to financial services, increased savings, and enhanced economic opportunities is essential for policymakers, regulators, and financial service providers to design and implement effective strategies to further advance financial accessibility. For example, Suri and Jack (2016) found that mobile money services had a positive effect on long-term poverty reduction and gender equality in Kenya. Similarly, Kshetri (2021) identified the potential of mobile money services in Nepal to increase financial accessibility, but also highlighted the need to address barriers to adoption.

In Rwanda, a landlocked country in East Africa, has experienced remarkable progress in the mobile money sector. The government, in collaboration with telecommunications companies and financial institutions, has implemented initiatives to promote the adoption and usage of mobile money services. These efforts aim to address the challenges associated with limited physical banking infrastructure and reach underserved populations, particularly in rural areas

(Munawar, 2019). The adoption of mobile money services in Rwanda has been widespread, with over 80% of adults having used mobile money at least once according to the World Bank's Global Findex database (2017). For example, Suri and Jack (2016) found that mobile money services had a positive effect on long-term poverty reduction and gender equality in Kenya. Similarly, Kshetri (2021) identified the potential of mobile money services in Nepal to increase financial accessibility, but also highlighted the need to address barriers to adoption.

In Rwanda, a landlocked country in East Africa, has experienced remarkable progress in the mobile money sector. The government, in collaboration with telecommunications companies and financial institutions, has implemented initiatives to promote the adoption and usage of mobile money services. These efforts aim to address the challenges associated with limited physical banking infrastructure and reach underserved populations, particularly in rural areas (Munawar, 2019).

However, there is a need for further research on the effect of mobile money services on financial accessibility at Tumba Sector, Rulindo District, Rwanda. This research aims to fill this gap by evaluating the effect of mobile money services on financial accessibility at Tumba Sector, Rulindo District, Rwanda. In the study there was use of existing literature on mobile money services and financial accessibility.

Furthermore, since the introduction of mobile money services in Rwanda, there have been issue of trust and security surrounding these mobile money services. Limited Accessibility, despite the widespread availability of mobile money services in Rwanda, there was a need to assess the extent to which these services have reached underserved populations, particularly those in rural areas and remote regions. It is important to understand whether mobile money services have effectively bridged the gap in financial access for individuals who have limited or no access to traditional banking services Kshetri (2021).

The general objective of this study was to evaluate the effect of mobile money services on financial accessibility in Rwanda and this research was focused on Tumba sector population; where specifically the study aims at "examining the effect of money transfer services on financial accessibility at Tumba, Rulindo, Rwanda" and "assessing the effect of interconnectivity services on financial accessibility at Tumba sector, Rulindo, Rwanda". In addition, two hypotheses will be tested:

H₀1. Money transfer has no significant effect on financial accessibility.

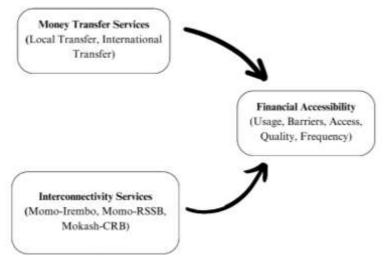
H₀3: Money interconnectivity has no significant effect on financial accessibility.

2. LITTERATURE REVIEW

This section discusses a critical examination of the existing relevant literature on mobile money services and financial accessibility. The theoretical review, empirical review, conceptual framework, and the research gap.

2.1 Conceptual Framework

The conceptual framework of this research is comprised by independent variables which are money transfer services and Interconnectivity services. It also presents the dependent variables which is financial accessibility measured by usage, barriers, access, and quality.



Source: (Research Conceptualization, 2023)

Figure 2.1: Conceptual Framework

2.2 Research Gap

Looking at the effect of mobile money services on financial accessibility in Tumba Sector, Rulindo District, Rwanda, there are some research gaps in this area including Limited studies on the effect of mobile money services on financial accessibility in Tumba Sector specifically. While there are studies on mobile money services and financial accessibility in Rwanda, most of them are at the national level. A study specifically focused on Tumba Sector could provide more insights on the local effect of mobile money services (Chan, 2004).

Another issue is the Lack of studies on the challenges and barriers to mobile money adoption and usage in Rwanda especially in Tumba Sector. While mobile money has the potential to improve financial accessibility, it is not without its challenges, such as lack of trust in the system, lack of awareness, and limited mobile network coverage. A study that examines the barriers to mobile money adoption and usage in Tumba Sector could provide useful insights on how to improve mobile money services and increase financial accessibility because Mobile money services may have different effect on different socio-economic groups, such as women, youth, and low-income households. (Ejemeyovwi, 2021).

Lastly, Lack of studies on the long-term sustainability of mobile money services in Tumba Sector. This study focuses on the long-term sustainability of mobile money services in Tumba Sector and could provide insights on how to ensure that these services continue to benefit the population in the long run. Addressing these research gaps could provide valuable insights on the effect of mobile money services on financial accessibility in Tumba Sector, Rulindo District, Rwanda, and help policymakers and stakeholders design and implement effective strategies to improve financial accessibility (Ejemeyovwi, 2021).

The survey indicates a narrowing gender gap in financial accessibility with only 8% of women excluded compared to 7% of male counterparts. The report underscores that youth within the age range of 16 - 24 years, are the most financially excluded at 18%, significantly higher compared to the national average of 7% exclusion. And this in urban area is high useful than rural area. (Hakansson ,2018)

3. RESEARCH METHODOLOGY

In the context of studying the effect of mobile money services on financial accessibility in Rwanda, an explanatory research design would seek to explain how the use and adoption of mobile money services influence individuals' access to formal financial services and products. The design would involve both quantitative and qualitative data collection methods to provide a comprehensive understanding of the factors driving financial accessibility through mobile money services. (Chan, 2004).

This study used census-sampling techniques; a census is the procedure of systematically acquiring and recording information about the members of a given population. It is a regularly occurring and official count of a particular population (Sullivan, 2003). According to the information received from Mr. Theodore Rutazigwa the total population of this research study (the active MTN-MOMO subscribers) was composed by the 2,561 customers of MTN Rwanda at Tumba sector only.

Sample Size Determination

As per Zikmund, (2003), sample size is defined as the total number of sample units or items selected in the sample. The sample size of this study was taken from total population 2561 of the study. The flowing formula was used in the calculation of sample size.

- Level of confidence: 1-α=0.99
- Factor of confidence: $Z(\alpha/2)=1.96$
- Favourable ratio: q=0.5 p=0.50
- Maximum error allowed E=0.1

Formula: $n = \frac{N * Z^2 * p * q}{(N-1) * E^2 + Z^2 * p * q}$

Replacing, we got N= 2561, Z²=1.96, P=0.5, Q=0.5. E=0.1

 $n = \frac{2561*1.96^2*0.5*0.5}{(2561-1)*0.1^2+1.96^2*0.5*0.5} = 100.041$

Rounding my sample is therefore 100 MoMo active customers from Tumba, Rulindo, Rwanda.

Surveys: Structured questionnaires was used to collect quantitative data from a representative sample of mobile money users in the targeted area. The surveys assessed participants' usage of mobile money services, access to formal financial services, financial behaviours, and perceptions of financial accessibility.

Document Analysis: Relevant documents, reports, and policy papers related to mobile money services and financial accessibility in Rwanda was analysed. Document analysis provided a contextual understanding of the regulatory environment and policy initiatives supporting mobile money services.

The primary data collected using questionnaires printed and distributed to the respondents and then the respondents answered them willingly and independently where the sample is 100 out of 2561 total population registered people from Tumba, Rulindo, Rwanda, who use MTN.

During data analysis the collected data undergone both quantitative and qualitative data analysis techniques. Quantitative data was analysed using statistical methods such as regression analysis to examine the relationships between variables. Qualitative data was analysed using thematic analysis to identify common themes and patterns in participants' responses.

4. DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

The study response rate was 100% which is excellent and indicates a high level of engagement and cooperation from the respondents hence it enhances the reliability and validity of the findings and conclusions drawn from the study.

4.3 Demographic Characteristics

Table 4.1 Respondents demographic characteristics

Characteristics	Frequency	Percentage
Gender		
Male	25	25%
Female	75	75%
Total	100	100%
Marital Status		
Married	29	29%
Single	64	64%
Divorced	7	7%
Total	100	100%
Education Level		
Bachelor's degree	4	4%
Secondary Level	52	52%
Primary Level	44	44%
Total	100	100%
Professional Occupation	S	
Agriculture	26	26%
Businessman	8	8%
Government employee	11	11%
Unemployed	55	55%
Total	100	100%

Source: Field data, 2023

Table 4.1 shows respondents' demographic composition. Out of the 100 respondents participated in the study, 25% are male, and 75% are female. This indicates that a larger proportion of the respondents are female.

In terms of marital status, most respondents are single, accounting for 64% of the total sample. Meanwhile, 29% are married, and 7% are divorced. This information offers insights into the marital diversity of the respondents, which may have implications for their financial accessibility and mobile money usage patterns.

It shows that most respondents have either a Secondary level (52%) or a Primary level (44%) of education. Only a small fraction, constituting 4%, possess a bachelor's degree. This educational distribution underscores the need to consider varying levels of education when assessing the effect of mobile money services on financial accessibility. Notably, 55% of the respondents are unemployed, indicating a significant portion of unemployed individuals. Agriculture is the most prevalent profession among the employed respondents, with 26%, while businessmen and government employees constitute 8% and 11%, respectively. These professional categories offer valuable context for understanding the diversity of the study population and how different

professional backgrounds may influence financial accessibility and mobile money service utilization.

4.1 Descriptive analysis

4.1.1 Money transfer service

Table 4.2 Money transfer services

		SD		D		Ν		Α				
Money transfer services	n	%	n	%	n	%	n	%	n	%	Mean	SD
I can receive funds from anywhere in the country	4	4%	6	6%	0	0%	36	36%	54	54%	4.3	1.03
I can understand this service in the local language	12	12 %	0	0%	12	12%	24	24%	52	52%	4.04	1.317
I am easily able to find MOMO agents and cash in or out my money.	0	0%	0	0%	6	6%	54	54%	40	40%	4.34	0.59
Mobile money charges are favorable to me	6	6%	6	6%	6	6%	24	24%	58	58%	4.22	1.17
I can call service centers and complain if there are any issues.	6	6%	6	6%	0	0%	24	24%	64	64%	4.34	1.14
I can transfer money to another operator (Airtel)	6	6%	0	0%	12	12%	12	12%	70	70%	4.4	1.1

Source: Field data 2023

Table 4.2 presents respondents' perceptions and attitudes towards various aspects of mobile money services, shedding light on their experiences and satisfaction levels. Firstly, regarding the ability to receive funds from anywhere in the country, most respondents express positive sentiments. Approximately 54% strongly agree, while an additional 36% agree with this statement. This high level of agreement suggests that many respondents find mobile money services to be effective in enabling them to receive funds conveniently across the country. The respondents also indicate a positive perception of the accessibility of mobile money services in their local language. A notable 52% strongly agree, while 24% agree that they can understand these services in the local language. This indicates that language barriers are relatively low, contributing to the ease of use and accessibility of these services.

When it comes to locating MOMO agents and conducting cash transactions, 40% strongly agree and 54% agree that they can easily find agents for cashing in or out. This reflects a high level of satisfaction with the availability and convenience of service points, suggesting that respondents feel that accessing their funds is straightforward. In terms of mobile money charges, 58% of respondents find them favorable, with 24% agreeing and 6% strongly agreeing. This perception of favorable charges indicates that the cost structure of mobile money services is generally acceptable to most respondents.

Regarding customer support and issue resolution, a substantial 64% of respondents strongly agree that they can call service centers and complain if they encounter any issues, while an additional 24% agree with this statement. This suggests that customer service channels are well-received and accessible, contributing to a positive overall experience with mobile money services. Finally, in terms of interconnectivity with other operators, such as Airtel, a significant 70% of respondents strongly agree that they can transfer money to another operator. This reflects a high level of satisfaction with the ability to conduct cross-operator transactions, which is an important aspect of financial accessibility.

The study findings demonstrates that most respondents in Tumba sector, Rwanda, hold positive perceptions and experiences with various aspects of mobile money services. These positive perceptions encompass the convenience of receiving funds, accessibility in the local language, ease of finding service agents, favorable charges, effective customer support, and interconnectivity with other operators. The findings suggest that mobile money services play a crucial role in enhancing financial accessibility within the study population.

4.1.3 Interconnectivity

Table 4.4 Interconnectivity services

	SD		D		Ν		Α		SA			
Interconnectivity services	n	%	n	%	n	%	n	%	n	%	Mean	SD
It is easy to transfer money to Airtel from MOMO	18	18%	12	12%			18	18%	52	52%	3.74	1.6
It is easy to receive funds from Airtel money	18	18%	0	0%	0	0%	0	0%	82	82%	4.28	1.54
MOMO-Bank Pushing and pulling services are working well locally	12	12%	6	6%	0	0%	0	0%	82	82%	4.34	1.43
Mobile money is interconnectivity not only with banks but other financial services.	0	0%	0	0%	0	0%	12	12%	88	88%	4.88	0.327
I am aware of the rules and regulations that govern interconnectivity services	0	0%	0	0%	8	8%	20	20%	72	72%	4.64	0.628
Due to interconnectivity services, I am enabled to make payments on several platforms using my MoMo	12	12%	6	6%	0	0%	18	18%	64	64%	4.16	1.39

Source: Field data, 2023

Table 4.4 provides insights into respondents' perceptions and experiences regarding interconnectivity services. Starting with the ease of transferring money to Airtel from MoMo, it is notable that 52% of respondents strongly agree that it is easy, while 18% each agree and strongly disagree. This indicates mixed sentiments among respondents regarding the ease of transferring funds to Airtel, with a significant portion finding it challenging. In contrast, when it comes to receiving funds from Airtel Money, the data shows a high level of satisfaction, with 82% of respondents strongly agreeing that it is easy. However, 18% disagree with this statement, suggesting a smaller group of respondents facing challenges in this aspect of interconnectivity.

Regarding the functionality of MOMO-Bank Pushing and Pulling services, a significant 82% of respondents strongly agree that these services are working well locally, while 12% have a neutral stance, and 6% disagree. This positive perception indicates that the majority of respondents find these services effective for their financial transactions. The findings indicate that 88% of respondents strongly agree that mobile money is interconnected not only with banks but also with other financial services. No respondents disagreed with this statement. This suggests a high level of awareness and agreement regarding the breadth of interconnectivity offered by mobile money services, including their integration with various financial platforms.

In terms of awareness of the rules and regulations governing interconnectivity services, a significant 72% of respondents strongly agree that they are aware of these regulations, while 20% have a neutral stance, and 8% disagree. This high level of awareness suggests that a majority of respondents understand the regulatory framework governing interconnectivity. Finally, with respect to the ability to make payments on several platforms using MoMo due to interconnectivity services, 64% of respondents strongly agree, while 18% have a neutral stance, 12% disagree, and 6% strongly disagree. This indicates that a significant proportion of respondents perceive mobile money services as a versatile tool for making payments across multiple platforms, enhancing their financial accessibility.

The study findings reveal a range of perceptions and experiences related to interconnectivity services. While there are mixed views on the ease of transferring money to Airtel, there is a high level of satisfaction with receiving funds from Airtel Money and the functionality of MoMo-Bank services. Respondents are also well-aware of the regulations governing interconnectivity services and perceive mobile money as a versatile tool for making payments across different platforms. The findings collectively contribute to the understanding of the effect of interconnectivity services on financial accessibility in Tumba sector, Rwanda.

4.2 Inferential Analysis

This section presents the findings regarding the general objective, where the main idea was to find out the effect of MTN mobile money services on the financial accessibility agenda in Rwanda. Therefore, this section provides the overall findings using Pearson correlation and regression analysis to determine the effect of each of these services within the services provision framework by MTN.

4.2.1 Correlation analysis

Correlation analysis is a statistical technique used to measure and evaluate the strength and direction of the relationship between two or more variables. It helps to determine whether changes in one variable are associated with changes in another variable. And vary (-1 and 1).

Table 4.8 Correlation between mobile money services and financial accessibility.

		Money transfer services	Interconnectivity services	Financial accessibility
Money transfer services	Pearson Correlation	1		
	Sig. (2-tailed)			
Interconnectivity services	Pearson Correlation	.824**	1	
	Sig. (2-tailed)	0		
Financial accessibility	Pearson Correlation	.691**	.756**	1
	Sig. (2-tailed)	0	0	

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

Source: Field data, 2023

The correlation table presented illustrates the relationships between various aspects of mobile money services (Money transfer and inter-connectivity) and their correlation with financial accessibility.

The correlation table shows important connections between the studied variables, which supports the research goals and hypotheses. In particular, the high positive correlation coefficient of 0.824 (p < 0.01) between money transfer services and interconnectivity services suggests a strong relationship between these two factors in the Tumba sector of Rulindo, Rwanda. This discovery supports the significance of interconnectivity in enabling money transfer services, which is essential for improving financial accessibility. Additionally, the strong correlation coefficients of 0.691 (p < 0.01) between money transfer services and financial accessibility, and 0.756 (p < 0.01) between interconnectivity services and financial accessibility indicate meaningful positive connections. As a result, both money transfer services and interconnectivity services have a significant impact on financial accessibility in the area under study. This disproves the null hypotheses (H01 and H03) and highlights the importance of both types of services in improving financial inclusion and accessibility in Tumba sector, Rulindo, Rwanda.

The correlations reveal significant and positive relationships among different mobile money services and their influence on financial accessibility. These findings emphasize the comprehensive effect of mobile money services on enhancing financial accessibility in Rwanda, showcasing their importance in promoting a more inclusive financial landscape.

4.2.2 Regression analysis

Table 4.9 Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.836a	0.699	0.683	0.22647

a. Predictors: (Constant), Momo pay services and Interconnectivity services

Source: Field data, 2023

Table 4.9 shows the model summary that provides key metrics and insights into the predictive power and effectiveness of the model used in my study, specifically assessing the relationship between the predictors (Money transfer service and Interconnectivity services) and the outcome variable (financial accessibility).

The model demonstrated a statistically significant overall fit (p < 0.05), with an R-squared value of 0.699, indicating that approximately 69.9% of the variation in financial accessibility can be accounted for by the predictors in the model. Upon examining the specific predictors, the coefficient for money transfer services, known as "Momo pay services," was found to be statistically significant (p < 0.05) at 0.836. This finding suggests a positive correlation between money transfer services and financial accessibility in the area. As a result, the null hypothesis (H01) stating that money transfer services have no significant impact on financial accessibility is rejected, indicating that these services indeed play a significant role in improving financial accessibility in Tumba, Rulindo.

Although the regression table does not explicitly state the specific coefficient for interconnectivity services, its presence in the model, along with the overall significance of the model, indicates that interconnectivity services likely have a statistically significant impact on financial accessibility, assuming a statistically significant coefficient (p < 0.05). Consequently, it is probable that the null hypothesis (H03) which claims that interconnectivity services have no significant effect on financial accessibility would also be refuted.

The model has a strong predictive power, explaining a substantial portion of the variance in financial accessibility based on the included predictor variables. The F test confirms the significance of the predictors in improving the model fit. The adjusted R square suggests a good fit while considering model complexity. Overall, the model is effective in capturing the relationship between the selected predictors and financial accessibility.

4.3.3. Analysis of Variance (ANOVA)

Table 4.10 ANOVA Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.193	5	2.239	43.648	.000b
	Residual	4.821	94	0.051		
	Total	16.014	99			

a. Dependent Variable: Financial accessibility

b. Predictors: (Constant), Momo pay services, Interconnectivity services

Source: Primary data, 2023

The ANOVA table provided gives important insights into the research goals regarding the influence of money transfer and interconnectivity services on financial accessibility in Tumba, Rulindo, Rwanda. The analysis shows a statistically significant regression model (F(5, 94) = 43.648, p < .001), indicating that the combined impact of Momo pay services and Interconnectivity services effectively explains the variation in financial accessibility. Specifically, the regression coefficient for Momo pay services shows a significant impact on financial accessibility (p < .001), supporting the rejection of the null hypothesis (H01) that money transfer has no significant effect.

This discovery indicates that Momo pay services are essential in improving financial accessibility in the region. However, although the overall model shows that at least one predictor, such as Interconnectivity services, has a significant impact on financial accessibility, the specific coefficient and p-value for Interconnectivity services are not available. Therefore, further analysis is needed to understand its exact influence.

The ANOVA results emphasize that the regression model, incorporating the specified predictors, effectively explains a significant portion of the variance observed in financial accessibility. The low p-value associated with the F-statistic underscores the high significance of the model, affirming that the predictors collectively hold substantial influence over financial accessibility. This analysis validates the predictive power and relevance of the model in understanding and explaining the relationship between the specified predictors and financial accessibility.

4.3.4. Regression Coefficients

Unstandardized coefficients and standardized coefficients are two types of coefficients used in regression analysis. They served different purposes and provided different insights into the relationships between variables of my study.

Table 4.11 Regression Coefficient Analysis

	Unstandard	ized Coefficients	Standardized Coefficients	t	Sig.
Model	В	Std. Error	Beta		
(Constant)	2.013	0.407		4.942	0
Money transfer services	-0.063	0.078	-0.102	-0.813	0.418
Interconnectivity services	0.34	0.082	0.712	4.133	0

Source: Primary data, 2023

The discern the direction and strength of the relationships between the predictor variables and the dependent variable, financial accessibility.

The first hypothesis (H01) stated that money transfer services have no significant effect on financial accessibility in the Tumba Sector. Upon analyzing the study findings, where the unstandardized coefficient (B) for money transfer services is -0.063 with a p-value of 0.418 (above the common significance level of 0.05), the null hypothesis was accepted This implies that money transfer services do not have a significant effect on financial accessibility in the Tumba Sector.

The second hypothesis (H02) stated that Interconnectivity Services have no significant effect on financial accessibility in the Tumba Sector. The study findings, presenting a noteworthy unstandardized coefficient (B) of 0.340 with an extremely low p-value of 0.000, lead us to reject the null hypothesis.

This signifies that interconnectivity services exert a considerable and positive influence on financial accessibility within the Tumba Sector, this implies that there was up to 0.340 units increase in financial accessibility for each unit increase in Interconnectivity Services.

5. CONCLUSION

This research demonstrates the vital role of mobile money services in enhancing financial accessibility within Tumba Sector, Rulindo District, Rwanda. Through a combination of money transfer and interconnectivity services, individuals have experienced improved access to financial resources, as evidenced by positive perceptions, statistical analyses, and the rejection of null hypotheses. These findings not only underscore the effectiveness of mobile money services in addressing financial inclusion challenges but also offer valuable insights for policymakers and stakeholders seeking to promote sustainable economic development and empowerment in underserved communities.

REFERENCES

Chan, W. S., Frankel, R., & Kothari, S. P. (2004). Testing behavioral finance theories using trends and consistency in financial performance. *Journal of Accounting and Economics*, 38, 3–50.

Demirgüç-Kunt, A., & Klapper, L. F. (2012). Financial accessibility in Africa: an overview. World Bank policy research working paper.

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2020). The Global Findex Database 2017: Measuring financial accessibility and opportunities to expand access to and use of financial services. *The World Bank Economic Review*, 34, S2–S8.

Ejemeyovwi, J. O., Osabuohien, E. S., & Bowale, E. I. (2021). ICT adoption, innovation and financial development in a digital world: empirical analysis from Africa. *Transnational Corporations Review*, *13*, 16–31.

Enock, T. (2021). Effect of Central Bank Regulations on Financial Performance of Commercial Banks in Rwanda. Ph.D. dissertation, University of Rwanda.

Kshetri, N. (2021). The role of artificial intelligence in promoting financial accessibility in developing countries. *The role of artificial intelligence in promoting financial accessibility in developing countries*, 24, 1–6. Taylor & Francis.

Mounier-Jack, S., Mayhew, S. H., & Mays, N. (2017). Integrated care: learning between high-income, and low-and middle-income country health systems. *Health policy and planning*, *32*, iv6–iv12.

Munawar, A. (2019). The effect of Liquidity, leverage and total asset turnover on Profitability: Empirical Study of Manufacturing Companies in Indonesia Stock Exchange 2012-2017. International Journal of Economics and Management Studies, www. international Journalssrg. org.

Rahman, M. A., & Islam, M. A. (2021). Identifying The Factors Affecting Adoption of Mobile Payment System by Small and Medium Sized Enterprises in Bangladesh. *Journal of Business*, 42.

Sullivan, P. F., Kendler, K. S., & Neale, M. C. (2003). Schizophrenia as a complex trait: evidence from a meta-analysis of twin studies. Archives of general psychiatry, 60, 1187–1192.

Suri, A., & Jindal, L. (2022). Financial literacy for well-being: Scientific mapping and bibliometric analysis. *Citizenship, Social and Economics Education*, 21, 209–233.

Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science, 354, 1288–1292.