



International Journal of Human Capital  
Management  
E-ISSN 2580-9164  
Vol. 7, No. 2, December 2023, p 243-253

Available online at  
<http://journal.unj.ac.id/unj/index.php/ijhcm>

## THE GAME-CHANGING EFFECT OF MOBILE MONEY ON SHAPING FINANCIAL KNOWLEDGE AND FINANCIAL SKILLS

**Rahman Alatas**

Management Study Program, STIE Mujahidin Toli – Toli  
Email: [abd.rahman@stiemujahidin.ac.id](mailto:abd.rahman@stiemujahidin.ac.id)

**Valentino**

Management Study Program, Sekolah Tinggi Ilmu Ekonomi.Dahani Dahanai, Barito Selatan  
Email: [valentinorahman14@gmail.com](mailto:valentinorahman14@gmail.com)

**Ela Elliyana**

Magister Management Study Program, Universitas Indonesia Timur, Makassar  
Email: [elaelliyana82@gmail.com](mailto:elaelliyana82@gmail.com)

**Rezvanny Maricar**

Management Study Program, Sekolah Tinggi Ilmu Ekonomi Amkop Makassar  
Email: [Vannymaricar@gmail.com](mailto:Vannymaricar@gmail.com)

### ABSTRACT

*The purpose of this study was to determine the effect of mobile money on financial knowledge and financial skills. The approach used in this research is a quantitative approach. The method used is a survey by distributing questionnaires to 100 respondents who are active mobile money users in Indonesia. The research instrument used was a questionnaire using a five-level Likert scale. In this study, researchers took a random sampling technique, namely random sampling so that it was not limited but could represent the entire population, workers, housewives active students. Data analysis and hypothesis testing were carried out using multiple linear regression analysis techniques, partial tests and simultaneous tests using the SEM PLS 4 application. The results showed that mobile money has an effect on financial knowledge and financial skills in active smarthpone users who are used for money transfer transactions, purchases in e-commerce, bill payments. The convenience of mobile money services, such as quick and easy transactions and bill payments.*

**Keywords:** *financial behaviour, financial knowledge, financial skill, financial attitudes, mobile money.*

---

Received: 5 September 2023

Accepted: 30 October 2023

Publish: December 2023

---

---

**How to Cite:**

Alatas, R., Valentino., Elliyana, E., & Maricar, R. (2023). The Game-Changing Effect of Mobile Money on Shaping Financial Knowledge and Financial Skills. *International Journal of Human Capital Management*, 7 (2), 243-253. <https://doi.org/10.21009/IJHCM.07.02.6>

---

## INTRODUCTION

Mobile money is defined as a financial transaction made by using a Subscriber Identification Module (SIM) enabled device such as a cellular phone via a mobile network (Donovan, 2012). In recent years, mobile money has emerged as a transformative force in the financial industry, revolutionizing the way people transact and manage their money. The concept of mobile money refers to the use of mobile phones or other mobile devices to perform various financial transactions, such as sending and receiving money, paying bills, or making purchases. This innovative technology allows individuals to access financial services without relying on traditional brick-and-mortar banks.

The game-changing effect of mobile money on shaping financial knowledge and skills: a paradigm shift in access and inclusion. Mobile money has revolutionized the way people access and manage their finances, particularly in developing economies where traditional banking services are limited. This technological advancement has brought about a paradigm shift in financial access and inclusion, empowering individuals to become more knowledgeable and skilled in managing their money.

By providing a convenient platform for everyday transactions such as payments, savings, and transfers, mobile money has democratized financial services. It has enabled millions of unbanked individuals to participate in the formal economy, fostering financial inclusion like never before. Moreover, with mobile money applications offering user-friendly interfaces and educational resources, users are gaining valuable insights into budgeting, saving, and investment strategies.

This game-changing technology is not only transforming how people interact with money but also equipping them with essential financial knowledge and skills.

Mobile money has a significant impact on financial knowledge and attitudes:

This research statement is clear and concise, but it could be strengthened by specifying the direction of the impact and providing a bit more detail. Here's a revised thesis statement: "Mobile money services have a transformative impact on individuals' financial knowledge and attitudes, empowering them with greater financial literacy and fostering more positive financial behaviors."

This revised statement explicitly mentions the transformative nature of mobile money services and how they lead to increased financial knowledge and more positive attitudes, which can help guide your research and arguments in this research.

**Mobile Money and Financial Knowledge:**

Mobile money is a digital financial service that allows individuals to store, send, and receive money using a mobile device, such as a smartphone. It has gained widespread popularity in regions with limited access to traditional banking services, and it is often considered a pivotal innovation in the realm of financial technology (FinTech).

**Key Features of Mobile Money:**

Mobile Wallet, users create accounts linked to their mobile numbers, turning their phones into virtual wallets. These accounts can store funds securely and are accessible via a unique PIN or other security measures (Alam, Awawdeh, & Muhamad, 2021; Shukur, Ismail, & Flaih, 2022; Teng & Khong, 2021; Tripathi, 2020). Cash Deposits and Withdrawals, users can load money into their mobile wallets by visiting authorized agents or using in-app features. They can also withdraw cash from their mobile wallets through these agents or ATMs in some cases (Bandara et al., 2021; Mogaji & Nguyen, 2022; Nambiar & Bolar, 2023). Money Transfers, mobile money enables users

to send and receive money to and from other users, even across long distances. This feature is particularly valuable for remittances and peer-to-peer transactions (Aaron, Rivadeneyra, & Sohal, 2017; Aron & Muellbauer, 2019; Kim, 2022). Bill Payments, users can pay bills, make purchases, or settle various financial obligations directly from their mobile wallets. This includes utilities, school fees, online shopping, and more (Kumar, 2023; Moonde, 2023). Airtime Top-Up, many mobile money platforms allow users to purchase mobile phone airtime and data directly from their wallets. This feature is convenient and enhances the overall user experience (Chick, Vialle, & Whalley, 2023; Habumugisha, 2022; Olaleye, Sanusi, & Oyelere, 2023; Regragui, 2022).

Security Measures, mobile money services employ robust security measures to protect user accounts and transactions. These often include PINs, two-factor authentication, and encryption to ensure the safety of users' funds and data. Transaction History, users can view their transaction history, providing a transparent record of their financial activities. This feature promotes accountability and budgeting. Financial Inclusion: One of the most significant features of mobile money is its role in expanding financial access to unbanked or underbanked populations. It helps bridge the gap by providing these individuals with a means to participate in the formal financial system. Educational Resources: Some mobile money platforms offer educational resources, such as financial literacy content and tools, to help users make informed financial decisions. Interoperability: In some regions, mobile money services have achieved interoperability, enabling users to transact across different providers, thereby increasing the accessibility and utility of these services (McBride & Liyala, 2023; Natile, 2020; Uña, Griffin, Verma, & Bazarbash, 2023).

## **LITERATURE REVIEW**

### **How mobile money promotes financial knowledge**

Access to financial services for unbanked populations, Mobile money plays a pivotal role in expanding financial knowledge by providing access to financial services for unbanked populations in several ways. Basic Financial Transactions, Mobile money allows unbanked individuals to perform basic financial transactions, such as saving money, transferring funds, and making payments. This practical experience fosters a better understanding of how financial systems work. Increased Financial Inclusion, by giving unbanked individuals access to digital financial services, mobile money introduces them to the formal financial system. As they engage with these services, they begin to understand concepts like account management, savings, and budgeting. Financial Literacy Programs, Some mobile money providers offer financial literacy programs aimed at educating users about various financial topics, including the importance of savings, responsible borrowing, and investment strategies. These programs empower users with knowledge that can improve their financial decision-making (Anakpo, Xhate, & Mishi, 2023; Fiocco, 2019; Mpofu, 2022; Pazarbasioglu et al., 2020; Pomeroy, Arango, Lomboy, & Box, 2020).

### **Convenience in managing finances through mobile apps**

The convenience of managing finances through mobile apps has a direct impact on financial knowledge. Real-time Transaction Tracking, Mobile money apps allow users to track their transactions in real-time. This feature enhances awareness of their spending patterns and helps them manage their finances more effectively. Budgeting Tools, Many mobile money apps offer budgeting features that help users plan and track their expenses. This encourages budgeting, which is an essential aspect of financial knowledge. Alerts and Notifications, Mobile apps can send alerts and notifications for account activity, ensuring that users stay informed about their financial transactions. This prompts them to take a more active interest in their financial well-being. Accessibility, Mobile money services are accessible 24/ (Bisht et al., 2022; Hezretov, 2021; Jindal & Chavan, 2023; Kayode-Ajala, 2023; Zhang, 2023)

## **Educational resources provided by mobile money platforms**

Many mobile money platforms offer educational resources to their users, further promoting financial knowledge. Financial Literacy Content, Some platforms provide articles, videos, and interactive content on financial literacy topics. Users can access these resources to learn about budgeting, savings, investing, and more. Calculators and Tools, Mobile money apps often include financial calculators and tools that assist users in making informed decisions, such as loan calculators, savings calculators, and currency conversion tools. Customer Support and FAQs, Mobile money providers typically offer customer support and FAQs to address user questions and concerns related to financial transactions and account management. Simulated Transactions, Some platforms offer the option to practice financial transactions in a simulated environment, allowing users to gain experience without the risk of real financial consequences (Ahmad, Green, & Jiang, 2020; Hasan, Le, & Hoque, 2021; Kuchciak & Wiktorowicz, 2021; Lyons & Kass-Hanna, 2021; Senyo, Karanasios, Gozman, & Baba, 2022; Yu, Gao, Kong, & Huang, 2023).

## **Mobile Money and Financial Attitude**

Mobile money can influence financial attitudes in several ways, shaping people's perceptions, behaviors, and emotional responses towards money and financial matters. Here's a discussion on how mobile money can impact financial attitudes. Increased Financial Empowerment, Mobile money can empower individuals by providing them with greater control over their financial resources. This increased sense of control can lead to more positive financial attitudes, as users feel that they are capable of managing their money effectively. This can result in attitudes of self-reliance and financial independence, Convenience and Reduced Stress, The convenience of mobile money services, such as quick and easy transactions and bill payments, can reduce financial stress and anxiety (Bharathi, 2023; Datta & Sahu, 2022; Hassouba, 2023; Muzanechita, 2022).

Users may develop more positive attitudes towards their finances when they experience less hassle in managing money, leading to a sense of financial well-being. Increased Confidence in Financial Decision-Making, Mobile money apps often provide tools and resources to help users make informed financial decisions. As users become more educated and equipped to make sound financial choices, they may develop more confidence in their decision-making abilities (Afawubo, Couchoro, Agbaglah, & Gbandi, 2020; Kumar, 2023; Tiwari, 2022). This can result in more positive financial attitudes and a greater willingness to explore investment opportunities. Improved Financial Goal Setting, Mobile money apps can help users set and track financial goals, such as saving for a specific purchase or building an emergency fund. Achieving these goals can instill a sense of accomplishment and encourage more positive financial attitudes, fostering a mindset of discipline and forward planning

Increased Savings and Investment Behaviors, Mobile money can promote saving and investment by offering easy access to savings accounts or investment products. As users see their savings grow or experience returns on their investments, they are likely to develop more positive attitudes towards saving and investing, recognizing the long-term benefits of these practices. Reduced Reliance on Risky Financial Services, In regions with limited access to traditional financial services, mobile money can offer a safer alternative to informal or risky financial practices. As users transition away from these riskier options, they may develop more responsible and cautious financial attitudes. Community and Peer Influence, The adoption of mobile money in communities can lead to social and peer influence. When individuals observe their peers making responsible financial choices through mobile money, they may be encouraged to do the same, fostering a culture of positive financial attitudes within the community (Aron & Muellbauer, 2019; Gabor & Brooks, 2020; Hoque, Rahman, Said, Begum, & Hossain, 2022).

Trust in Formal Financial Institutions, Mobile money services often involve partnerships with traditional banks or financial institutions. As users experience secure and reliable financial transactions through mobile money, they may develop greater trust in formal financial institutions,

leading to more positive attitudes towards the broader financial system. In summary, mobile money can influence financial attitudes by providing convenience, education, empowerment, and positive experiences in financial management. It can lead to a shift in attitudes from financial insecurity and anxiety to greater confidence, financial responsibility, and an overall positive outlook towards managing one's finances (Bindseil, 2019; Chen, Kumara, & Sivakumar, 2021; Kitsios, Giatsidis, & Kamariotou, 2021; Maltais & Nykvist, 2020).

### **H<sub>1</sub> : Mobile Money has a positive and significant effect on Financial Knowledge**

Mobile money platforms have the potential to enhance financial knowledge among users. With access to financial tools and resources provided by these platforms, individuals can gain a deeper understanding of banking operations, budgeting, and financial planning. For instance, mobile money applications often incorporate interactive features, such as budget trackers and expense analysis, which help users monitor their financial habits and make informed decisions (Bitrián, Buil, & Catalán, 2021; Koo & Khor, 2023; Saglam, Nurse, & Hodges, 2022; Torno, Werth, Nickerson, Breitner, & Muntermann, 2021).

Furthermore, mobile money services often offer easily accessible educational materials, including articles, videos, and tutorials, on various financial topics. These resources can empower users by increasing their financial literacy and equipping them with the necessary knowledge to navigate the complex world of personal finance.

### **H<sub>2</sub> : Mobile Money has a positive and significant effect on Financial Skill**

Mobile money platforms not only equip individuals with knowledge but also augment their financial skills. By promoting digital financial transactions, mobile money encourages users to engage actively in financial activities, such as budgeting, saving, and investing. These platforms often provide users with real-time updates on their financial status, enabling them to monitor their expenditure patterns more effectively and make adjustments accordingly (Dorfleitner & Nguyen, 2022; French, McKillop, & Stewart, 2020; Katusiime, 2021; Natile, 2020).

Moreover, mobile money services frequently incorporate features that encourage responsible financial behavior. For example, some platforms offer virtual savings accounts and automated round-up options, which encourage users to save more consistently. These functionalities promote financial discipline and instill good money management habits in users, thereby improving their overall financial skill set (Boden, 2019; Chaudhuri, Gupta, Vamsi, & Bose, 2021; Clements, 2020; Hikida & Perry, 2020).

## **METHODOLOGY**

The approach used in this research is a quantitative approach. The method used is a survey by distributing questionnaires to 100 respondents who are active mobile money users. The research instrument used was a questionnaire using a five-level Likert scale. In this study, researchers took a random sampling technique, namely random sampling so that it was not limited but could represent the entire population. Data analysis and hypothesis testing were carried out using multiple linear regression analysis techniques, partial and simultaneous tests using the SEM PLS 4 application. Mobile Money (MM), Financial Inclusion (FI), Financial Knowledge (FK), Financial Skill (FS)

**Table. 1 Indicator Variable**

Mobile Money (MM) (Obiero, 2016)	
MM1	I have to use digital payments
MM2	Using digital payments has become second nature to me
MM3	I achieve what I want with Digital Payment
MM4	Compared to other methods, digital payment is better
MM5	Digital payment will be very effective in my opinion
MM6	I find digital payments easy to use
MM7	Digital payments provide many benefits, such as discounts and cashback
Financial Knowledge (FK) (Johan, Rowlingson, & Appleyard, 2021)	
FK1	General Personal Finance Knowledge
FK2	Savings and Loan Knowledge
FK3	Insurance Knowledge
FK4	Investment Knowledge
Financial Skill (FS) (Mitchell & Lusardi, 2011)	
FS1	Basic budgeting skills
FS2	Basic risk management skills
FS3	Ability to collect financial information such as credit, investment information
FS4	Ability to meet funding needs on time

**RESULT AND DISCUSSION**

Test results of composite reliability (CR) as well as convergent validity of the constructs in table.1. Indicates that the constructs have high internal consistency and sufficient average variance extracted (AVE) to validate convergent validity (Hair Jr, Babin, & Krey, 2017). Most of the indicators measuring each construct achieved satisfactory load values that were higher than the threshold value of 0.708, as supported by Hair Jr et al., (2017). The composite reliability (CR) value of Mobile Money is 0.835, financial Knowledge is 0.505, and financial skill is 0.820, which implies that the money management and financial skill variables have high internal consistency constructs. In addition, these constructs also show satisfactory convergent validity with an average variance extracted (AVE) value for each construct of 0.500 threshold value, which indicates that the financial skill indicator describes more than 50% of the construct variance. In addition to Mobile money and financial knowledge are 0.469 and 0.380 respectively.

**Table 2. Reflective Measurement Mode**

Dimension	Item	Loadings	CR	AVE
Mobile Money	MM.1	0.505	0.835	0.469
	MM.2	0.593		
	MM.3	0.795		
	MM.4	0.725		
	MM.5	0.774		
	MM.6	0.542		
	MM.7	0.789		
Financial Knowledge	FK.1	0.775	0.505	0.380
	FK.2	0.581		
	FK.3	0.543		
	FK.4	0.537		
Financial Skill	FS.1	0.820	0.820	0.647
	FS.2	0.812		
	FS.3	0.788		
	FS.4	0.797		

Source : Data Processed, 2023

**Table.3 Discriminant Validity**

	FK	FS	MM
FK			
FS	1.153	-	
MM	1.240	1.010	-

Source : Data Processed, 2023

Table.3 presents the Heterotrait monotrait ratio (HTMT) criterion to evaluate discriminant validity, whereby the square root of the AVE values for each latent variable was found to be higher than the correlation values between all variables (Hair, Risher, Sarstedt, & Ringle, 2019).

**The Structural Model**

This section discusses the testing of the structural model to determine the proposed relationship between variables in the research framework. Next a 5000-bootstrap resampling of data is conducted to examine the hypotheses of this study (Hair Jr et al., 2017) Table.4 demonstrates the assessment of the path coefficient which is represented by Beta values for each path relationship. The results show that three hypotheses were indeed supported.

**Table 4. Hypothesis Testing for Personal Effect**

Hypothes	Beta	Mean	stdev	T-values	P-value
MM -> FK	0.763	0.772	0.056	13.740	0.000
MM -> FS	0.837	0.841	0.053	15.810	0.000

Source : Data Processed, 2023

**Model Quality Assessment**

Table.5 displays the quality of the model. We assessed the effect size (f2), the coefficient of determination (R2), Collinearity Statistic is used for multicollinearity issues test (VIF/ Variance Inflation Factor values), and the predictive relevance (Q2) of exogenous variables on the endogenous variable in this study (1-SSE/SSO) Sum Square error and Sum Square Observation.

**Table 5 Model Quality Assessment**

HYPOTHESIS	Direct Effect	F2	R2	VIF	Q2
H1	MM -> FK	0.763	0.872	1.000	0.872
H2	MM -> FS	0.837		1.000	

Source : Data Processed, 2023

Adjusted R2 0.872 indicates that the ability of the independent variable to explain the variation of the dependent variable is very strong. Q-Square in this study is 87.2%, meaning that the predictive value of the model is relevant.

Graphical output

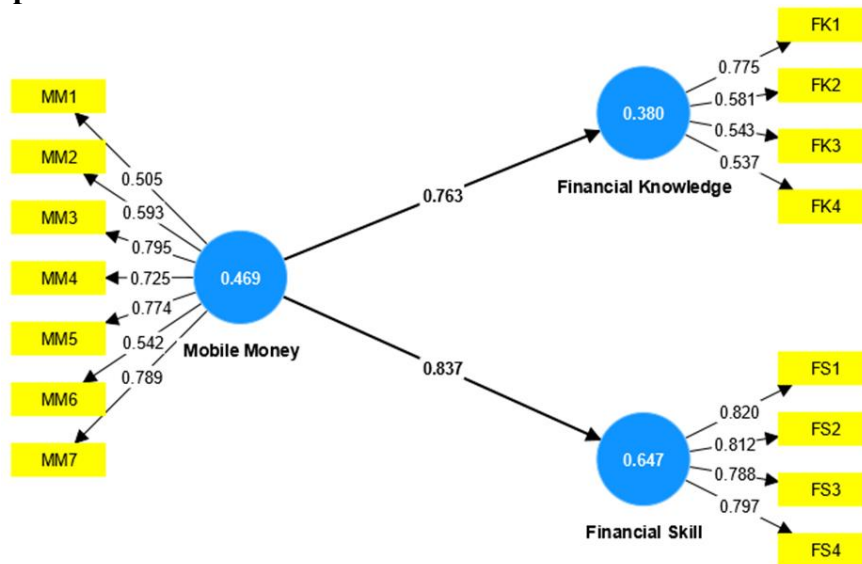


Figure.1 construction of PLS modeling path diagram (outer Loading)

CONCLUSION

Mobile Money has a significant effect on Financial knowledge by (0.763), and has an effect on Financial skills by (0.837). Mobile money benefits depend to some extent on its widespread use, better mobile phone skills are less dependent on their networks in learning how to use mobile money. Infrastructure limitations, lack of awareness, and low literacy rates hinder adoption rates. However, with advancements in technology and increased government support, there are promising prospects for reaching these marginalized groups. Furthermore, predicting future trends in mobile money is crucial for industry players. The integration of artificial intelligence (AI) and machine learning algorithms can enhance personalized user experiences

REFERENCES

Aaron, Meyer, Rivadeneyra, Francisco, & Sohal, Samantha. (2017). *Fintech: Is this time different? A framework for assessing risks and opportunities for Central Banks*. Bank of Canada Staff Discussion Paper.

Afawubo, Komivi, Couchoro, Mawuli K., Agbaglah, Messan, & Gbandi, Tchapo. (2020). Mobile money adoption and households' vulnerability to shocks: Evidence from Togo. *Applied Economics*, 52(10), 1141–1162.

Ahmad, Ahmad Hassan, Green, Christopher, & Jiang, Fei. (2020). Mobile money, financial inclusion and development: A review with reference to African experience. *Journal of Economic Surveys*, 34(4), 753–792.

Alam, Md Mahmudul, Awawdeh, Ala Eldin, & Muhamad, Azim Izzuddin Bin. (2021). Using e-wallet for business process development: challenges and prospects in Malaysia. *Business Process Management Journal*, 27(4), 1142–1162.

Anakpo, Godfred, Xhate, Zizipho, & Mishi, Syden. (2023). The Policies, Practices, and Challenges of Digital Financial Inclusion for Sustainable Development: The Case of the Developing Economy. *FinTech*, 2(2), 327–343.

Aron, Janine, & Muellbauer, John. (2019). The Economics of Mobile Money: harnessing the transformative power of technology to benefit the global poor. *Centre for the Study of African Economies*.



- Bandara, Eranga, Liang, Xueping, Foytik, Peter, Shetty, Sachin, Ranasinghe, Nalin, De Zoysa, Kasun, & Ng, Wee Keong. (2021). Promize-blockchain and self sovereign identity empowered mobile ATM platform. *Intelligent Computing: Proceedings of the 2021 Computing Conference, Volume 2*, 891–911. Springer.
- Bharathi, R. (2023). *Financial Literacy among members of SHG s and economic empowerment of women A study in DK District*.
- Bindseil, Ulrich. (2019). Central bank digital currency: Financial system implications and control. *International Journal of Political Economy*, 48(4), 303–335.
- Bisht, Deepa, Singh, Rajesh, Gehlot, Anita, Akram, Shaik Vaseem, Singh, Aman, Montero, Elisabeth Caro, Priyadarshi, Neeraj, & Twala, Bhekisipho. (2022). Imperative role of integrating digitalization in the firms finance: A technological perspective. *Electronics*, 11(19), 3252.
- Bitrián, Paula, Buil, Isabel, & Catalán, Sara. (2021). Making finance fun: the gamification of personal financial management apps. *International Journal of Bank Marketing*, 39(7), 1310–1332.
- Boden, Anne. (2019). *The Money Revolution: Easy Ways to Manage Your Finances in a Digital World*. Kogan Page Publishers.
- Chaudhuri, Neha, Gupta, Gaurav, Vamsi, Vallurupalli, & Bose, Indranil. (2021). On the platform but will they buy? Predicting customers' purchase behavior using deep learning. *Decision Support Systems*, 149, 113622.
- Chen, Yanyu, Kumara, E. Kusuma, & Sivakumar, V. (2021). Investigation of finance industry on risk awareness model and digital economic growth. *Annals of Operations Research*, 1–22.
- Chick, Essence Ambe, Vialle, Pierre, & Whalley, Jason. (2023). *The disruptive strategy of Orange in the payment and banking industry in Africa and its knowledge links with its strategy in the European market*.
- Clements, Ryan. (2020). Financial Inclusion in British Columbia: Evaluating the Role of Fintech. *Government of British Columbia, Expert Panel on Basic Income Research Paper*.
- Datta, Srimoyee, & Sahu, Tarak Nath. (2022). How far is microfinance relevant for empowering rural women? An empirical investigation. *Journal of Economic Issues*, 56(1), 97–112.
- Donovan, Kevin. (2012). Mobile money for financial inclusion. *Information and Communications for Development*, 61(1), 61–73.
- Dorfleitner, Gregor, & Nguyen, Quynh Anh. (2022). Mobile money for women's economic empowerment: the mediating role of financial management practices. *Review of Managerial Science*, 1–30.
- Fiocco, Melissa. (2019). *Banking for the Unbanked: The Promises, Pitfalls and Potentials of Mobile Banking*.
- French, Declan, McKillop, Donal, & Stewart, Elaine. (2020). The effectiveness of smartphone apps in improving financial capability. *The European Journal of Finance*, 26(4–5), 302–318.
- Gabor, Daniela, & Brooks, Sally. (2020). The digital revolution in financial inclusion: international development in the fintech era. In *Material Cultures of Financialisation* (pp. 69–82). Routledge.
- Habumugisha, Fulgence. (2022). *Smart airtime vending machine: Case study Nyamasheke district, Nyabitekeri Sector*. College of science and Technology.
- Hair, Joseph F., Risher, Jeffrey J., Sarstedt, Marko, & Ringle, Christian M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Hair Jr, Joseph F., Babin, Barry J., & Krey, Nina. (2017). Covariance-based structural equation modeling in the Journal of Advertising: Review and recommendations. *Journal of Advertising*, 46(1), 163–177.
- Hasan, Morshadul, Le, Thi, & Hoque, Ariful. (2021). How does financial literacy impact on inclusive finance? *Financial Innovation*, 7(1), 1–23.
- Hassouba, Taghreed Abdelaziz. (2023). Financial inclusion in Egypt: the road ahead. *Review of Economics and Political Science*.
- Hezretov, Malikberdi. (2021). *Budget Tracker Highly Customizable Budgeting Mobile*

*Application.*

- Hikida, Ross, & Perry, Jason. (2020). Fintech trends in the united states: Implications for household finance. *Public Policy Review*, 16(4), 1–32.
- Hoque, Muhammad Nazmul, Rahman, Muhammad Khalilur, Said, Jamaliah, Begum, Farhana, & Hossain, Mohammad Mainul. (2022). What factors influence customer attitudes and mindsets towards the use of services and products of Islamic Banks in Bangladesh? *Sustainability*, 14(8), 4703.
- Jindal, Priya, & Chavan, Lochan. (2023). Multimedia Sustained Benefits for Financial Services. In *Digital Transformation, Strategic Resilience, Cyber Security and Risk Management* (pp. 243–262). Emerald Publishing Limited.
- Johan, Irni, Rowlingson, Karen, & Appleyard, Lindsey. (2021). The effect of personal finance education on the financial knowledge, attitudes and behaviour of university students in Indonesia. *Journal of Family and Economic Issues*, 42, 351–367.
- Katusiime, Lorna. (2021). Mobile money use: The impact of macroeconomic policy and regulation. *Economies*, 9(2), 51.
- Kayode-Ajala, Olaolu. (2023). Applications of Cyber Threat Intelligence (CTI) in Financial Institutions and Challenges in Its Adoption. *Applied Research in Artificial Intelligence and Cloud Computing*, 6(8), 1–21.
- Kim, Kyungha. (2022). Assessing the impact of mobile money on improving the financial inclusion of Nairobi women. *Journal of Gender Studies*, 31(3), 306–322.
- Kitsios, Fotis, Giatsidis, Ioannis, & Kamariotou, Maria. (2021). Digital transformation and strategy in the banking sector: Evaluating the acceptance rate of e-services. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 204.
- Koo, Xin Tong, & Khor, Kok Chin. (2023). Expense Tracking with Tesseract Optical Character Recognition v5: A Mobile Application Development. *2023 IEEE Symposium on Industrial Electronics & Applications (ISIEA)*, 1–5. IEEE.
- Kuchciak, Iwa, & Wiktorowicz, Justyna. (2021). Empowering financial education by banks—social media as a modern channel. *Journal of Risk and Financial Management*, 14(3), 118.
- Kumar, Ashok. (2023). Mobile Wallets Gateway For Cashless Payment. *Journal of Pharmaceutical Negative Results*, 14.
- Lyons, Angela C., & Kass-Hanna, Josephine. (2021). A multidimensional approach to defining and measuring financial literacy in the digital age. In *The Routledge handbook of financial literacy* (pp. 61–76). Routledge.
- Maltais, Aaron, & Nykvist, Björn. (2020). Understanding the role of green bonds in advancing sustainability. *Journal of Sustainable Finance & Investment*, 1–20.
- McBride, Neil, & Liyala, Samuel. (2023). Memoirs from Bukhalalire: a poetic inquiry into the lived experience of M-PESA mobile money usage in rural Kenya. *European Journal of Information Systems*, 32(2), 173–194.
- Mitchell, Olivia S., & Lusardi, Annamaria. (2011). Financial Literacy and Planning: Implications for Retirement Well-being. *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*, (October).  
<https://doi.org/10.1093/acprof:oso/9780199696819.003.0002>
- Mogaji, Emmanuel, & Nguyen, Nguyen Phong. (2022). The dark side of mobile money: Perspectives from an emerging economy. *Technological Forecasting and Social Change*, 185, 122045.
- Moonde, Chimuka. (2023). *Secure mobile payment system based on Blockchain technology for higher learning institutions*. The University of Zambia.
- Mpofu, Favourate Y. (2022). Industry 4.0 in Financial Services: Mobile Money Taxes, Revenue Mobilisation, Financial Inclusion, and the Realisation of Sustainable Development Goals (SDGs) in Africa. *Sustainability*, 14(14), 8667.
- Muzanechita, Rindai S. (2022). *The significance of The Ecocash mobile money service in fostering financial inclusion in the Zimbabwean informal sector*. University of Pretoria.
- Nambiar, Bindu K., & Bolar, Kartikeya. (2023). Factors influencing customer preference of

- cardless technology over the card for cash withdrawals: an extended technology acceptance model. *Journal of Financial Services Marketing*, 28(1), 58–73.
- Natile, Serena. (2020). *The exclusionary politics of digital financial inclusion: Mobile money, gendered walls*. Routledge.
- Obiero, Evaline A. (2016). *Knowledge And Perception On Mobile Money And Its Influence On Access To Formal Financial Services Among The Youths In Seme Sub County: A case Of Kombewa Division*. University of Nairobi.
- Olaleye, Sunday Adewale, Sanusi, Ismaila Temitayo, & Oyelere, Solomon Sunday. (2023). Improving performance, security and mobile money users' experience: a study of service design. *International Journal of Mobile Communications*, 21(3), 295–315.
- Pazarbasioglu, Ceyla, Mora, Alfonso Garcia, Uttamchandani, Mahesh, Natarajan, Harish, Feyen, Erik, & Saal, Mathew. (2020). Digital financial services. *World Bank*, 54.
- Pomeroy, Robert, Arango, Carlos, Lomboy, Cristopher G., & Box, Steve. (2020). Financial inclusion to build economic resilience in small-scale fisheries. *Marine Policy*, 118, 103982.
- Regragui, Mohamed Khalil. (2022). *The african mobile wallets: an empirical analysis of the services and the anticipated trends*.
- Saglam, Rahime Belen, Nurse, Jason R. C., & Hodges, Duncan. (2022). Personal information: Perceptions, types and evolution. *Journal of Information Security and Applications*, 66, 103163.
- Senyo, P. K., Karanasios, Stan, Gozman, Daniel, & Baba, Melissa. (2022). FinTech ecosystem practices shaping financial inclusion: the case of mobile money in Ghana. *European Journal of Information Systems*, 31(1), 112–127.
- Shukur, Mohammed H., Ismail, Reem J., & Flaih, Laith R. (2022). Empower e-wallets payment system by using secured hybrid approach of online and offline services. *Cihan University-Erbil Scientific Journal*, 6(2), 23–27.
- Teng, Shasha, & Khong, Kok Wei. (2021). Examining actual consumer usage of E-wallet: A case study of big data analytics. *Computers in Human Behavior*, 121, 106778.
- Tiwari, Siddhartha Paul. (2022). Organizational Competitiveness and Digital Governance Challenges. *Archives of Business Research*, 10(3).
- Torno, Albert, Werth, Oliver, Nickerson, Robert C., Breitner, Michael H., & Muntermann, Jan. (2021). More than Mobile Banking-A Taxonomy-based Analysis of Mobile Personal Finance Applications. *PACIS*, 179.
- Tripathi, Shivam. (2020). A study on adoption of digital payment through mobile payment application with reference to Gujarat state. *International Journal of Trend in Scientific Research and Development*.
- Uña, Gerardo, Griffin, Naomi, Verma, Alok, & Bazarbash, Majid. (2023). *file:///C:/Users/LENOVO/Downloads/scholar (99).ris Fintech Payments in Public Financial Management: Benefits and Risks*.
- Yu, Liang, Gao, Jie, Kong, Yan, & Huang, Long. (2023). Impact of perceived scarcity on delay of gratification: meditation effects of self-efficacy and self-control. *Current Psychology*, 1–9.
- Zhang, Yu. (2023). *Three Essays on Mobile Financial Technology: From the Perspective of Financial Knowledge, Financial Stress, and Financial Well-Being*. University of Georgia.