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Determinants of FinTech adoption in Savings and Credit Cooperatives: Evidence from Malawi

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Abstract

Purpose: The study examines factors influencing the adoption of FinTech in Savings and Credit Cooperatives (SACCOs) using the Unified Theory of Use and Acceptance of Technology.

Methodology: The study adopted a quantitative research design and used a survey method to collect data from SACCOs in Malawi. It employed a probit regression model to analyze the data.

Findings: The results indicate that expected effort, social influence, and facilitating conditions were the significant factors whereas expected performance was not. Further, facilitating conditions were found to be more influential followed by social influence and expected effort.

Practical Implications: Efforts to promote FinTech adoption in SACCOs need to prioritize the development of a robust digital ecosystem, that is, the facilitating conditions.

Originality/Value: This contributes to the discourse on the determinants of FinTech adoption that has so far provided contrasting results. Further, this is the first empirical study on FinTech adoption determinants in Malawi's SACCOs.

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INTRODUCTION

Financial Technology (FinTech) refers to the technological developments that have the potential to revotionalize how financial services are provided and inspire the creation of new business models, apps, workflows, and products (World Bank, 2021). It involves leveraging technology to offer different services including Blockchain, Data Analysis, Insurance, Personal Finance, Wealth Management, Financial Services Lending, Payment solutions, Real Estate, and Regulatory Tech (Nanduri 2021). FinTech offers ways of easily accessing banking and financial services, and promoting financial inclusion, especially in developing countries like Malawi (Evans 2018). It has changed how financial services and products are produced, delivered, and consumed (Allen et al. 2021). For instance, instead of going to the bank or Savings and Credit Cooperative (SACCO) or any financial institution office physically to access services, one may access the services using Unstructured Supplementary Service Data (USSD) or online, using the Internet provided they have a phone or a computer.

Worldwide, the rate of adoption of FinTech has gone up to 64% and 96% of consumers are aware of these products and services (Hassan et al. 2022). The World Economic Forum projects that 70% of the world's new value will be digitally enabled in the next ten years (World Economic Forum, 2020). Africa has demonstrated acceptance in the use of FinTech products. For example, it is noted that as of 2023, 68% of global mobile money transactions by value were done in Africa (AfCFTA 2023). These evolutions have not spared Malawi, a country in Sub-Saharan Africa. It has been reported that access to at least a formal financial product increased from 34% in 2015 to 45% in 2018 (FinMark Trust 2020). This was necessitated by investments being made in financial technologies like mobile money services. Besides, the same investments have also been made in banking digital payment solutions.

Savings and Credit Cooperatives (SACCOs) have also been adopting FinTech. Recently, the Financial Cooperative (FINCOOP) SACCO launched 'Fin Mobile', which is a digital banking application specifically designed for SACCOs. Generally, the innovations in the banking industry have pushed other financial institutions including SACCOs to adopt innovative means of serving their members. To the extent that SACCOs are partnering with banks and other FinTech suppliers to help them incorporate FinTech Services in their operations. Accordingly, some SACCOs have adopted electronic banking and mobile banking services (UNDP Malawi 2023). The adoption of these technologies is reforming how members access and the cooperatives offer financial products and services (Feyen et al. 2023).

As of September 2023, in Malawi, forty-four SACCOs were affiliated with the Malawi Union of Savings and Credit Cooperative (MUSCCO) the mother body for the SACCOs in the country. The forty-four SACCOs were serving Two hundred twenty-two thousand nine hundred and eleven members (MUSCCO 2023). The number represents an increase in both the number of SACCOs and membership since 2019. According to the records, in 2019, MUSCCO had Thirty-eight affiliates that were serving one hundred fifteen thousand one hundred twenty-one members (FinMark Trust 2020).

Despite the benefits associated with the adoption and use of FinTech products and services, the uptake of these products and services is still very low in Malawi (World Bank 2021). In particular, FinMark Trust (2020) found that most payments are done in cash and cheques in many Micro Finance Institutions (MFI) and Village Savings and Loan Associations (VSLAs) (FinMark Trust 2020). Further, loan applications were all still done manually despite innovations. However, there are hardly any studies to examine this problem. Besides, there is a dearth of studies on Fintech in general in Malawi; most extant studies focus on specific products and services like Internet banking and mobile money, leaving other products or services within the financial technology area (Chirwa 2022). In addition, existing studies from other countries provide contrasting results regarding the factors that influence FinTech adoption (Kurniasari et al. 2023; Najib et al. 2021; Rosnidah et al. 2019; Hassan et al. 2022; Rahim et al. 2023; Sebastián et al. 2023; Hasyim 2022). Therefore, this study seeks to contribute to filling these gaps by assessing the factors that drive the adoption of FinTech in the SACCOs. It is worth noting that FinTech and SACCOs both play a role in improving financial inclusion in developing countries like Malawi.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Unified Theory of Acceptance and Use of Technology (UTAUT)

Several theories attempt to explain why one adopts or does not adopt a particular technology. These include the Theory of Reasoned Actions (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), Technology Acceptance Model 2 (TAM 2), Technology Acceptance Model 3 (TAM 3), Innovation Diffusion Theory (IDT), Unified Theory of Acceptance and Use of Technology (UTAUT) among others (Makongoro 2014). However, this study uses the UTAUT model. The model was adopted due to its predictive power and existing empirical evidence of its reliability of results it produces (Papagiannidis 2022).

The theory was developed by Venkatesh et al. (2003). It was developed to get a holistic understanding of what influences the adoption of technologies. It was developed after integrating eight theories which include Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Technology Acceptance Model(TAM), the Motivational Model (MM), the Combined Theory of Planned Behaviour and Technology Acceptance Model (CTPB-TAM), Model of PC Utilisation (MPCU), Innovation Diffusion theory (IDT) and Social Cognitive Theory (SCT) (Williams, 2015; Venkatesh et al. 2003). These theories were developed in different fields. For example, TRA, TPB, and MM were developed in the Social Psychology fields whilst TAM, CTPB-TAM, and MPCU were developed in the social field. Social Cognitive Theory and IDT were developed in social sciences fields. By integrating these models and theories, UTAUT took into account all their limitations and worked on them whilst taking advantage of their merits.

Thirty-two variables were used to develop the UTAUT model and these were fused into four variables which are social influence, expected performance, facilitating conditions, and expected effort (Aziz et al., 2020). Williams et al. (2015) pointed out that these four constructs directly influence behavioral intention to use as well as usage itself. Numerous prior studies on the adoption of technologies, innovations, or systems have used the theory (Papagiannidis 2022). Accordingly, this study uses the four constructs to examine the determinants of FinTech adoption in SACCOs.

Expected effort

Venkatesh et al. (2012) define expected effort as the degree of use associated with a particular technology. Expected effort is associated with convenience (Makongoro 2014). It explains which applications are likely to be adopted and used by a user. Existing studies have produced contrasting results on the effect of expected effort on the adoption of FinTech. For example, studies by Kurniasari et al. (2023); Najib et al. (2021); Tun-Pin et al. (2019); Makongoro (2014), and Yan et al., (2021) found that expected effort had a positive significant influence on the adoption of FinTech. Essentially, a high degree of ease of use was among the main factors influencing the adoption of FinTech (Kurniasari et al. 2023; Rosnidah et al. 2019; Tun-Pin et al. 2019). On the other hand, Hassan et al. (2022); Urus et al. (2022); and Rahim et al. (2023) found that expected effort had no significant influence on the adoption of FinTech. The studies observed that simplicity in using a system cannot be enough reason to influence one to adopt a system. Thus, this study hypothesized that:

H_1: Expected effort has a positive effect on FinTech adoption in SACCOs.

Social influence

Social influence is the degree to which influential people think a certain technology is appropriate for people to employ (Venkatesh et al. 2012). Since organizations such as SACCOs operate in an open environment where technological advances are the norms of the day, they may be forced to adapt and adopt FinTech to remain competitive and to serve well their members (Daft 2016). Different researchers have studied the impact of social influence on the adoption of FinTech such as Zakariyah et al. (2023), Kurniasari et al. (2023), Hassan et al. (2022), Chan et al. (2022), Rahim et al. (2023), Najib et al. (2021), Nawayseh, (2020), Rosnidah et al. (2019) and Tun-Pin et al. (2019). These studies found that social influence had a positive and significant influence on the adoption of FinTech. However, Urus et al. (2022) found contrasting results. The study found that social influence had a negative significant influence on the adoption of FinTech in Indonesia, whilst in Malaysia, the study found that it had no influence at all. This study hypothesized that:

H_2: Social influence has a positive effect on FinTech adoption in SACCOs.

Expected performance

Expected Performance refers to the degree to which people believe that using a specific technology would enhance their ability to perform their job (Venkatesh et al. 2012). Since the adoption of a particular technology is usually associated with costs, there must be an economic justification for the technology to be adopted. In other words, the benefits must outweigh the costs. Thus, expected performance measures the degree to which adoption of the technology will provide recognizable benefits to users (Rosnidah et al. 2019). It is worth noting that expected performance is one of the factors that have been heavily used in studies on mobile and Internet banking (Oliveira et al. 2014; Tarhini et al. 2016; Yu 2012).

Several studies have also looked into how performance expectancy influences FinTech adoption. They include Kurniasari et al. (2023), Rahim et al. (2023), Yan et al. (2021), Rosnidah et al. (2019), and Najib et al. (2021) who found that expected performance influences FinTech adoption to a greater extent. On the other hand, studies by Sebastián et al. (2023), Hasyim (2022), Pasaribu and Rabbani (2022), Kadim and Sunardi (2021), Maharani (2021), Sankaran and Chakraborty (2021), and Angelina et al. (2021) found that expected performance does not influence the adoption of FinTech. Accordingly, this study hypothesized that:

H_3: Expected performance has a positive effect on FinTech adoption in SACCOs.

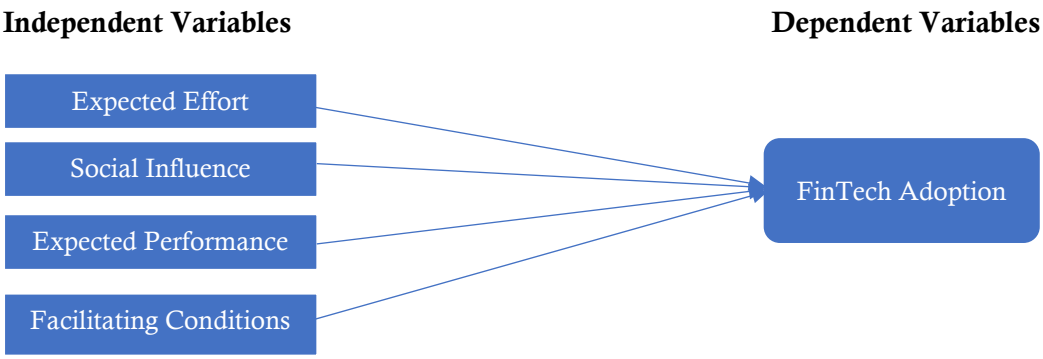
Facilitating conditions

Facilitating conditions entails the degree to which a person thinks that the technological and organizational infrastructure is available to facilitate the use of a specific technology (Khalili 2011). According to Venkatesh et al. (2012), facilitating conditions are perceptions of the existence of resources as well as support to perform a behavior. Thus, facilitating conditions are circumstances or elements that make it easier or more favorable for a certain outcome or action to occur.

Studies have found contrasting results on the effect of facilitating conditions on the adoption of FinTech. For instance, Hassan et al. (2022),Rahim et al. (2023), Kadim and Sunardi (2021), Angelina et al. (2021), Kurniasari et al. (2023), Rosnidah et al. (2019), Hu et al. (2019), and Najib et al. (2021) found that facilitating conditions do have a positive significant effect on FinTech adoption. Conversely, Hasyim (2022), Pasaribu (2022) and Sebastián et al. (2023) found that facilitating conditions do not have a significant effect on the adoption of FinTech. Accordingly, the study hypothesized that:

H_4: Facilitating conditions have a positive effect on FinTech adoption in SACCOs.

Based on the extant literature, Figure 1 presents the conceptual framework for the study. The four constructs of the UTAUT theory are employed as independent variables whereas FinTech adoption is the dependent variable.



Source: Derived from a literature review by researchers (2024).
Figure 1. Conceptual framework

METHODS

Research design

This study took a positivist research philosophy, employing quantitative data collection and analysis methods. It was cross-sectional and explanatory in nature. A deductive research approach was adopted as such the study used an existing theory to determine the effects of UTAUT variables on FinTech adoption in SACCOs in Malawi.

Sampling and data collection

The population of the study was the forty-four SACCOs that are affiliated with the Malawi Union of Savings and Credit Cooperatives (MUSCCO) as of September 2023 (MUSCCO, 2023). Considering the manageable number of the SACCOs, a census approach was adopted, as such, all the SACCOs were sampled. Primary data was collected using a questionnaire. The questionnaire was administered using Google Forms and in cases where there were challenges to collecting the data, the researcher physically delivered the questionnaire. One questionnaire was sent to each SACCO. Accordingly, forty-four questionnaires were sent out of which thirty-three were returned out of the returned questionnaires, thirty-two were usable. This represented a 72% response rate.

To determine whether SACCOs had adopted FinTech, the questionnaire (see the appendix) requested the participants to tick on the options given on the FinTech product they were using or indicate any other product being used if not on the list of options. The other questions were grouped according to the variables being studied. For instance, questions on expected effort focused on how respondents could rate on a scale of 1-5 how easy it is to understand the FinTech system or product, its user-friendliness and convenience, and trust when one is using the system. For social influence, participants rated members' and competitors' influence, and the desire to improve corporate image. For the expected performance, the questions centered on time savings, efficiency, and effectiveness. Lastly, regarding facilitating conditions, questions assessed the availability of government support, regulations, resources to use or adopt the systems, technical know-

how, and support to use the system.

Data analysis

The dependent variable was binary, where 0 indicated non-adoption of FinTech and 1 indicated the adoption of FinTech, as such, a probit regression model was employed to analyze the data. The following probit regression model was used:

$$prob[y_i = 1|x_i] = \Phi(\alpha + \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4) \quad (1)$$

Where Φ is a normal cumulative density function, y_i is a dummy variable taking value 1 if the SACCO adopts FinTech and 0 otherwise while the regression parameters were $\beta_i = (\beta_1, \beta_2, \beta_3, \beta_4)$ being the coefficient on the first, second, third and fourth predictor variables. The x_i's represent independent variables denoted as follows:

x_1 – the Expected Effort

x_2 – the Social Influence

x_3 – the Expected Performance

x_4 – the Facilitating Conditions

Statistical testing was done to ascertain the relationship between the dependent and the independent variables in the model with the help of Stata software.

RESULT AND DISCUSSION

Demographic characteristics

As it has already been noted, 33 responses were received out of which 32 were usable representing a 72% response rate. In terms of years of existence, 34% of the SACCOs were less than 10 years old. The same was observed for those with years of existence between 10-20 years. The remaining 31% were found to have existed for more than 20 years. With regards to membership, 97% of SACCOs have a membership of less than 20,000. The remaining 3% has a membership of more than 20,000.

Descriptive statistics

The questionnaire had questions whose responses were measured using the Likert scale of 1 – 5, with 1 representing strongly disagree, 2 disagree, 3 neutral, 4 agree and 5 strongly agree except for FinTech adoption which had a binary measure of yes (1), or no (0). All four constructs of the UTAUT model had questions that were collectively answering their level of influence. Table 1 provides the descriptive results for the variables.

Table 1. Descriptive statistics results

Variables	Sample size	Mean	Std. Deviation	Minimum	Maximum
Fintech Adoption	32	0.875	0.336	0.000	1.000
Expected Effort	32	3.820	0.670	2.000	5.000
Social influence	32	4.089	0.576	2.500	5.000
Expected performance	32	4.203	0.610	2.333	5.000
Facilitating conditions	32	3.526	0.618	1.833	4.667

Source: Data processed (2024)

The results indicate that 87.5% of the sampled SACCOs had adopted FinTech. The high rate of adoption is not surprising as the world is going digital, as such, organizations even in developing countries are going along in adopting relevant technologies to remain competitive. In terms of the independent variables, the minimum mean score on the constructs was 3.5 whilst the maximum average was 4.1. This meant that most of the responses were positive as they were above the neutral value of 3. On the expected effort, the mean score was 3.820, which is above 3 representing a neutral stance as it is slightly lower than agree (4). On social influence, the average score was 4.089, which is somewhat above agreement (4). Regarding expected performance, the mean score was 4.203 which is slightly above 4 which represents agreement. Likewise, the mean score for facilitating conditions was 4.667 which is somewhat lower than strongly agree (5) but above agree (4).

Diagnostic tests

Reliability tests

Cronbach's alpha was computed to assess reliability. The computed Cronbach's was based on variables which included Fintech adoption, expected performance, expected effort, social influence, and facilitating conditions. The results from this test are presented in Table 2.

Table 2. Cronbach's alpha results

Item	Observations	Sign	Item-test correlation	Item-rest correlation	Average inter-item correlation	alpha
Fintech adopted	32	+	0.763	0.600	0.375	0.706
Expected effort	32	+	0.623	0.404	0.459	0.772
Social influence	32	+	0.842	0.724	0.327	0.660
Expected performance	32	+	0.803	0.662	0.350	0.683
Facilitating conditions	32	+	0.574	0.340	0.488	0.792
Test scale					0.3999	0.769

Source: Data processed (2024)

The overall alpha result of 0.77 suggests that there was a strong internal consistency in the variables (Taber 2018). The alphas of the variables ranged between 0.660 and 0.792, as such, they fall in the acceptable zone. This means that the whole set of variables were measuring the same underlying dependent variable.

Multicollinearity

The researcher tested for multicollinearity. In this process, correlation was tested first (Zakariyah et al. 2023). It is worth noting that some scholars argue that a value of 0.80 or higher is a sign of multicollinearity (Shrestha, 2020), while others state that a correlation of 0.70 or higher should be a course of concern (Pallant 2010; Tarhini et al. 2016). However, multicollinearity is detected through the use of Variance Inflation Factor (VIF). VIF of less than 3 is deemed acceptable which indicates that multicollinearity is minimal or non-existent. Tables 3 and 4 show the correlation and VIF test results.

Table 1. Correlation coefficients results

	Fintech adopted	Expected effort	Social influence	Expected performance	Facilitating conditions
Fintech adopted	1				
Expected effort	0.291	1			
Social influence	0.560	0.476	1		
Expected performance	0.521	0.392	0.691	1	
Facilitating conditions	0.378	0.087	0.3111	0.293	1

Source: Data processed, 2024

Table 2. Variance Inflation Factor (VIF) results

Variable	VIF	1/VIF
Social influence	2.18	0.458626
Expected performance	1.96	0.510071
Expected effort	1.32	0.760272
Facilitating conditions	1.13	0.884962

Source: Data processed, 2024

The results presented in Table 3 show that all the correlation coefficients were less than 0.70 suggesting that the data was free of multicollinearity problems. This was confirmed in Table 4 as VIF values for all variables were less than 3.

Heteroscedasticity

Being a cross-sectional study data is usually affected by heteroscedasticity, accordingly, the test was undertaken to examine whether variances were constant or not (Gujarati, 2004). The result of the test produced a chi-square statistic of chi2(1) being equal to 23.55 with a probability (Prob > chi2) of 0.0000. Based on these results the null hypothesis was rejected as it was proved that heteroscedasticity was present. Accordingly, robust standard errors were used when estimating the model as they tend to violate statistical model assumptions (Mansournia et al., 2021).

Model specification

Before deciding on the variables to be included in the model, a model specification test was undertaken. Basically, independent variables have to be fit so that errors or biases that may affect the model and later the results are avoided. A link test model was used to test the model specification. Table 5 presents the results.

Table 3. Model specification test

Fintech	Coefficient	Std. err.	z	P>z	[95% conf. interval]	
_hat	1.015295	0.66119	1.54	0.125	-0.280614	2.311203
_hatsq	-0.0547229	0.066392	-0.82	0.413	-0.1848485	0.0754028
_cons	0.0365464	0.557426	0.07	0.948	-1.055989	1.129081

Source: Data processed, 2024

Based on the results, both hat and hat squares were insignificant. This shows that the model was fit for the analysis. This was also verified with the joint p-value of the model which at less than 0.01 (see Table 6) indicating the fitness of the model for the analysis.

Inferential statistics

The inferential statistics were run using the probit regression model and the results, which used robust standard errors are presented in Table 6. It is worth noting that the joint p-model was found to be significant (p-value = 0.008). This shows that the model was fit, accordingly, its results can be relied on with greater confidence.

Table 4. Summary of inferential statistics results

Variables	Coefficients	P value	Robust std. errors	Marginal effects	[95% Confidence Interval]	
Expected Effort	1.486	0.009	0.571	0.0918	0.367633	2.603631
Social influence	3.341	0.032	1.567	0.206	0.2829072	6.401008
Expected performance	1.119	0.159	0.797	0.069	-0.4389227	2.676093
Facilitating conditions	4.386	0.005	1.6	0.271	1.289449	7.481799
constant	-33.211	0.001	10.261	n/a	-53.15967	-13.26207
Joint p-value	0.008					
Sample size	32					

Source: Data processed, 2024

The results for the regression model show that expected effort significantly influences FinTech adoption in SACCOs in Malawi. With a p-value of 0.009, any positive percentage change in expected effort significantly increases the probability of adoption by 9.18%. The results are consistent with Kurniasari et al. (2023), Makongoro (2014), Najib et al. (2021), Rosnidah et al. (2019), and Tun-Pin et al. (2019). As regards social influence, the results of the probit regression model also show that it significantly influences adoption. With a p-value of 0.032, any positive percentage change in social influence significantly increases the probability of adoption by 21%. Johnson et al. (2017) explained that organizations, like living organisms, continue to adapt to their environment if they are to survive. Moreover, in the current competitive and open environment, organizations need to actively interact with the environment and the organizations (Daft 2016) and try at a minimum to remain at par with fellow organizations. In this study, some SACCOs took a leading role in the adoption and usage of Fintech, others adopted the technology as they felt they need not be left behind.

On the other hand, the results of the expected performance show that it is insignificant as its p-value was 0.159 thus greater than the maximum threshold of 0.05. The results, to some extent, were surprising because the efficiency brought by the usage of technology is expected to benefit the organization. This is the case because operational costs tend to be minimized as less effort or time is spent working on one activity. McKillop et al. (2020) observed that FinTech has managed to change business fortunes from loss-making to profit-making businesses. They noted that the positive impact of FinTech on the performance of business can never be refuted. However, this study's results suggest that the benefits may not be realizable in Malawi. This may be due to low IT literacy in the country as such the users of the technology may not be in a position to use it efficiently.

Lastly, on the facilitating conditions, probit regression results showed that they significantly influence the adoption of FinTech in SACCOs. With a p-value of 0.005, any positive percentage change in facilitating conditions increases the probability of adoption by 27%. The results are in agreement with Angelina et al. (2021), Hassan et al. (2022), Hu et al. (2019), Najib et al. (2021), Rosnidah et al. (2019), and Tun-Pin et al. (2019). Besides, it is worth noting that the results showed that facilitating conditions were the most positive and significant variable in influencing FinTech adoption in SACCOs followed by social influence and expected effort. The results echo the calls of the World Bank (2021) and Hornuf et al. (2025) for more investment in digital infrastructure and making sure that the digital ecosystem is robust and in human capital by incorporating Information Communication Technology (ICT) and financial lessons in education such that the citizens' expertise and knowledge in the ICT and finance are increased.

CONCLUSION

The objective of the study was to determine the factors that influence the adoption of FinTech in SACCOs in Malawi using the UTAUT model. The results indicate that expected effort, social influence, and facilitating conditions were the significant factors whereas expected performance was not. Further, facilitating conditions were found to be more influential followed by social influence and expected effort. The results indicate the areas that need focusing in promoting FinTech adoption in the SACCOs. Further, the results indicate that the promotional efforts may need to prioritize ensuring the development of a robust digital ecosystem to enhance the facilitating conditions. The major limitation of the study is that it is cross-sectional, in the future, a longitudinal study may be necessary to evaluate the evolution of the subject matter over time.

REFERENCES

Al Nawayseh, M. K. 2020. FinTech in COVID-19 and Beyond: What Factors Are Affecting Customers' Choice of FinTech Applications? *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4): 153. https://doi.org/10.3390/joitmc6040153.

Allen, F., X. Gu, and J. Jagtiani. 2021. A Survey of Fintech Research and Policy Discussion. *Review of Corporate Finance*, 1(3–4): 259–339. https://doi.org/10.1561/114.00000007

Angelina, Kurniadi, E., G. G. Hendityasari, and M. Mariani 2021. Analysis Factors Affecting Lenders Intention In P2p Lending Platform Using Utaut2 Model. *Turkish Journal of Computer and Mathematics Education,* 12(3): 3527–3537. https://doi.org/10.17762/turcomat.v12i3.1628

Chan, R., I. Troshani, S. Rao Hill, and A. Hoffmann. 2022. Towards an understanding of consumers' FinTech adoption: the case of Open Banking. *International Journal of Bank Marketing*, 40(4): 886–917. https://doi.org/10.1108/IJBM-08-2021-0397

Chirwa, E. 2022. Understanding the Dynamics of Value Co-Creation in a Digital Platform Ecosystem: The Case Of Mobile Money In Malawi. *PhD Thesis.* University of Sheffield.

Daft, R. L. 2016. *Management*. Boston: Cengage Learning.

Sebasti´an, M. G. de B., A. Antonovica, and J. R. S. Guede. 2023. What are the leading factors for using Spanish peer-to-peer mobile payment platform Bizum? The applied analysis of the UTAUT2 model. *Technological Forecasting and Social Change*, 187(February). https://doi.org/10.1016/j.techfore.2022.122235

Evans, O. 2018. Connecting the poor: the internet, mobile phones and financial inclusion in Africa. *Digital Policy, Regulation and Governance*, 20(6): 568-581. https://doi.org/10.1108/DPRG-04-2018-0018

Feyen, E., H. Natarajan, and M. Saal. 2023. *Fintech and the Future of Finance-Market and Policy Implications*. The World Bank Group.

FinMark Trust. 2020. *Malawi Financial Inclusion Refresh*. Available at: https://uncdfmapdata.org. [accessed 6th October 2024]

Hassan, S., A. Islam, F. A. Sobhani, H. Nasir, I. Mahmud. 2022. Drivers Influencing the Adoption Intention towards Mobile Fintech Services : A Study on the Emerging Bangladesh Market. *Information*, 13(7):

349. https://doi.org/10.3390/info13070349.Market. 1–16.

Hasyim, F. 2022. Modification of UTAUT2 in assessing the use of E-Money in Surakarta. *Islamic Economics and Finance Journal*, 1(2): 114–134. https://doi.org/10.55657/iefj.v1i2.41

Hornuf, L., K. Safari, and J. Voshaar. 2025. Mobile fintech adoption in Sub-Saharan Africa: A systematic literature review and meta-analysis. *Research in International Business and Finance*, 73(Part A) https://doi.org/10.1016/j.ribaf.2024.102529.

Johnson, G., R. Whittington, K. Scholes, D. Angwin, and P. Regner. 2017. *Exploring Strategy*. London: Pearson.

Kim, J., Y. Choi, Y. J. Park, and J. Yeon. 2016. The adoption of mobile payment services for "Fintech". *International Journal of Applied Engineering Research*, 1(2): 1058-1061.

Kurniasari, F., P. Utomo, and S. Y. Jimmy. 2023. Determinant Factors of Fintech Adoption in Organization using UTAUT Theory Approach. *Journal of Business and Management Review*, 4(2): 092–103. https://doi.org/10.47153/jbmr42.6032023

Makongoro, G. 2014. Factors Influencing Customer Adoption of Mobile Banking Services in Tanzania. *Masters Thesis*. The Open University of Tanzania.

Mansournia, M. A., M. Nazemipour, A. I. Naimi, G. S. Collins, and M. J. Campbell. (2021). Reflection on modern methods: Demystifying robust standard errors for epidemiologists. *International Journal of Epidemiology*, 50(1): 346–351. https://doi.org/10.1093/ije/dyaa260

McKillop, D., D. French, B. Quinn, A. L. Sobiech, and J. O. S. Wilson. (2020). Cooperative financial institutions: A review of the literature. *International Review of Financial Analysis*, 71(December 2019). https://doi.org/10.1016/j.irfa.2020.101520

Williams, D. M. 2015. The unified theory of acceptance and use of technology (UTAUT): A literature review. *Journal of Enterprise Information Management*, 28(3): 443–488.

Malawi Union of Savings and Credit Cooperative. 2023. SACCO Quarterly Financial and Statistical Report as at 30th September 2023. Malawi SACCO Statistics.

Najib, M., W. J. Ermawati, F. Fahma, E. Endri and D. Suhartanto. 2021. FinTech in the Small Food Business and Its Relation with Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*. 7(1):88. https://doi.org/10.3390/joitmc7010088

Nanduri, S. 2021. Digital Finance: Fintech for Financial Inclusion and Sustainability. *Turkish Online Journal of Qualitative Inquiry*, 12(6): 5135–5142.

Pallant, J. 2010. *SPSS survival manual: A step by step guide to data analysis using SPSS*. London: McGrawHill.

Papagiannidis, S. 2022. *TheoryHub Book: A theory resource for students and researchers alike*. Available at: https://open.ncl.ac.uk. [accessed 6th October 2024]

Rosnidah, I., A. Muna, A. M. Musyaffi, and N. F. Siregar. 2019. 'Critical Factor of Mobile Payment Acceptance in Millenial Generation: Study on the UTAUT model'. *In Proceedings of the International Symposium on Social Sciences, Education, and Humanities*.

Shrestha, N. 2020. Detecting Multicollinearity in Regression Analysis. *American Journal of Applied Mathematics and Statistics*, 8(2): 39–42. https://doi.org/10.12691/ajams-8-2-1

Taber, K. S. 2018. The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48(6): 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Tarhini, A., M. El-Masri, M. Ali, and A. Serrano. 2016. Extending the UTAUT model to understand the customers' acceptance and use of internet banking in Lebanon a structural equation modeling approach. *Information Technology and People*, 29(4): 830–849. https://doi.org/10.1108/ITP-02-2014-0034

Tun-Pin, C., W. C. Keng-Soon, Y. Yen-San, C. Pui-Yee, J. T. Hong-Leong, and N. Shwu-Shing. 2019. An Adoption of Fintech Service in Malaysia. *South East Asia Journal of Contemporary Business, Economics and Law*, 18(5): 73–92.

United Nations Development Programme Malawi. 2023. *Advancing Financial Inclusion in Malawi through Fin Mobile*. Available at: https://www.undp.org/malawi/news/advancing-financial-inclusion-malawi-through-fin-mobile. [accessed 6th October 2024]

Venkatesh, V., M. G. Morris, G. B. Davis, and F. D. Davis. 2003. User acceptance of information technology: Toward a unified view. MIS Quarterly: Management Information. *MIS Quarterly: Management Information Systems*, 27(3): 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., J. Y. L. Thong, and X. Xu. 2012. Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36(1): 157–178. https://doi.org/10.2307/41410412

World Bank. 2021. *Investing in Digital Transformation. In Malawi Economic.* Available at: www.worldbank.org/mw. [accessed 6th October 2024]

World Economic Forum. 2020. *Why Digital Business Models Matter*. Available at: https://widgets.weforum.org/digital-readiness-assessment/. [accessed 6th October 2024]

Zakariyah, H., A. O. Salaudeen, A. H. A. Othman, and R. Rosman. 2023. The determinants of financial technology adoption amongst Malaysian waqf institutions. *International Journal of Social Economic*s, 50(9): 1302-1322. https://doi.org/10.1108/IJSE-04-2022-0264

APPENDIX: QUESTIONNAIRE

SECTION A: FINTECH PRODUCTS/SERVICES IN USE

(Please tick the relevant box according to your choice)

Which FinTech products/services do you use?(Vasenska et al. 2021)

i. Mpamba □
ii. Airtel-Money □
iii. Electronic Banking. i.e., Electronic Funds Transfer, Online account access □
iv. Digital loan application and approval □
v. Others (please specify): ……
vi. We do not use any □

SECTION B: MEASURING CONSTRUCTS

(Please tick the relevant box according to your choice)

Expected Effort

1. It is easy to understand the operation of FinTech Services/products (Hassan et al. 2022)
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

2. The operation interface of FinTech services or products is user-friendly (Hassan et al. 2022).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

3. Conducting transactions through FinTech products or Services is convenient (Hassan et al. 2022).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

4. There are no doubts about what is being done when using FinTech products or services (Oliveira et al. 2014)
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □

iv. Disagree □
v. Strongly disagree □

Social influence

5. Our members want us to use or adopt FinTech Services/Products (Hassan et al. 2022).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

6. Our fellow SACCOs influence us to adopt and use FinTech Services/Products (Hassan et al. 2022).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

7. Our members prefer that we should use or adopt FinTech Services/Products to traditional banking methods (Hassan et al. 2022).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

8. We find the use of FinTech products or services to be fashionable (Oliveira et al. 2014).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

9. The use of mobile banking improves our brand and corporate image (Oliveira et al. 2014).
   i. Strongly agree □
   ii. Agree □
   iii. Neutral □
   iv. Disagree □
   v. Strongly disagree □

Expected performance

10. Usage of FinTech products/services saves us time (Hu et al. 2019)

i. Strongly agree □
ii. Agree □
iii. Neutral □
iv. Disagree □
v. Strongly disagree □

11. Using FinTech help us meet our service needs (Hu et al. 2019).

i. Strongly agree □
ii. Agree □
iii. Neutral □
iv. Disagree □
v. Strongly disagree □

12. FinTech services can improve efficiency (Hu et al. 2019)

i. Strongly agree □
ii. Agree □
iii. Neutral □
iv. Disagree □
v. Strongly disagree □

13. FinTech products/services usage reduces traffic in our offices.

i. Strongly agree □
ii. Agree □
iii. Neutral □
iv. Disagree □
v. Strongly disagree □

14. FinTech products/services allow us to make our payments quicker (Oliveira et al. 2014)

i. Strongly agree □
ii. Agree □
iii. Neutral □
iv. Disagree □
v. Strongly disagree □

15. Loan applications are made quicker when using FinTech products/services (Oliveira et al. 2014)
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

16. Overall, the FinTech products/services usage provides us with value for money(Yan et al. 2021)
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

Facilitating conditions

17. Government supports and improves the use of FinTech products/services (Hu et al. 2019).
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

18. FinTech products/services are well-regulated in Malawi (Hu et al. 2019)
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

19. Necessary resources to use FinTech Services/products exist (Hassan et al. 2022)
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

20. FinTech Services/products are compatible with other systems that we use (Hassan et al. 2022)
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □
21. Help is available when we get problems in using these services (Yu 2012).
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

22. We have the knowledge of how to use FinTech products/services (Oliveira et al. 2014)
    i. Strongly agree □
    ii. Agree □
    iii. Neutral □
    iv. Disagree □
    v. Strongly disagree □

Thanks for participating and answering these questions.