EAST AFRICAN FINANCE JOURNAL (EAFJ)
Volume 4 Issue 1 |2025 | pp 147 - 162

E-ISSN: 2959-9121

Socioeconomic Determinants of Digital Financial Inclusion among Informal Market Traders in Zambia: Evidence from Lusaka City Market

Austin Mwange, PhD*

Lecturer, The University of Zambia, Graduate School of Business, Lusaka, Zambia

*Corresponding Author

Moonga Mumba, PhD

Lecturer, The University of Zambia, Development Studies Department, Lusaka, Zambia

Article DOI: *10.59413/eafj/v4.i1.9*

Abstract:

The main purpose of the research was to examine socioeconomic determinants of DFI among informal market traders in key informal markets in Zambia using a case study of the Lusaka City Market. The study employed the quantitative methodology making use of the cross-sectional descriptive survey design. Data was collected from informal traders at the Lusaka City Market where the stratified random sampling technique was employed. The PLS-SEM technique was employed to analyse the data. The study found that digital financial literacy, trust and social influence are significant determinants for digital financial inclusion among the informal traders in informal markets. Education, internet access and income status were found insignificant determinants for digital financial inclusion. The study concluded that digital financial literacy and financial self-efficacy have significant moderating impacts on digital financial inclusion. The study recommended for service providers and agents of the digital financial services and products including FinTechs and financial institutions to consider investing in building trust and confidence in their services and products by enhancing security.

Keywords: Digital financial inclusion, informal market traders, Lusaka, Zambia, Socio-economic determinants

1. Introduction

Recently, digital financial inclusion (DFI) has emerged as a key topic on global agenda for inclusive and sustainable socioeconomic growth (Tay, Tai & Tan, 2022). DFI has become very important in recent years, given the significant contribution it makes to the economic growth of countries and the role it plays in reducing inequalities (Parvin &

E-ISSN: 2959-9121

Panakaje, 2022). This is because an inclusive digital financial system improves efficiency and wellbeing by providing reliable and safe savings practices and efficient delivery of a range of digital financial services (DFS) (Ozili, 2022). Digital financial inclusion is understood as the system that offers access to DFS and products for all people in a reliable, affordable, convenient, sustainable and flexible manner with a focus on the financially excluded or underserved (Tay et al., 2022). From Demirgüç-Kunt et al. (2022), the possibility of accessing various DFS, such as mobile money accounts or other text-based or application-based financial accounts, has increasingly expanded owing to development of digital technologies known as financial technologies (FinTechs). According to Tay et al. (2022), when offered sustainably and ethically in well-regulated environments, DFI can potentially encourage development and accelerate progress towards attainment of Sustainable Development Goals (SDGs).

However, developing nations especially in Sub-Sahara Africa (SSA) are challenged by low levels of digital financial inclusion (Chinoda & Kapingura, 2024; Siwela & Njaya, 2021). However, there is deficiency of empirical studies on factors that influence digital financial inclusion particularly on demand-side factors. In Zambia, the Government has recognized the importance of digital financial inclusion as an enabler of socioeconomic development (Chibesa & Mwange, 2025). However, the low utilisation of digital financial services and products by marginalized populations particularly the informal sector players are of great concern in the country (Chibesa & Mwange, 2025). Thus, promoting financial inclusion particularly DFI in the informal sector has been one of the national policy agenda in Zambia (Simuchimba, Mudenda & Phiri-Mumba, 2024). For instance, the National Financial Inclusion Strategy (NFIS) I (2017–2023) and the NFIS II (2024-2028) were launched by the Bank of Zambia with the vision of achieving universal access to and promote the use of a broad range of affordable and quality financial products and services in the informal sector.

In addition, according to the 8th National Development Plan (2022-2026), one of the national objectives is to enhance financial inclusion through strategies such as increase in the provision of mobile, agency and digital banking services to the underserved populations. Digital financial inclusion has been found to be an effective solution to address challenges facing informal MSMEs in Zambia such as limited access to formal finance (Inambao, Phiri & Kunda, 2018). Besides, the significant increase in mobile money users from 14%t in 2015 to 50.8% in 2022 demonstrated the potential for driving digital financial inclusion in the economy (Bank of Zambia, 2023; FinScope, 2023). However, as highlighted in the NFIS II [2024–2028], informal financial inclusion decreased from 37.9% in 2015 to 32.2% in 2023. This decline has been found a threat to

 E-ISSN: 2959-9121

attainment of the NFIS II (2024–2028) target of making sure that 80% of the adult population is formally financially included by the year 2028. Besides the decline in informal financial inclusion among the marginalized populations in Zambia particularly informal traders, no comprehensive research has been to find out the driving or inhibiting factors for digital financial inclusion. Hence, against this background, the study attempts to examine the social and economic determinants of digital financial among informal market traders in key informal markets in the Lusaka City Market.

2. Theoretical Background and Hypothesis Development

2.1 Digital financial inclusion

In the existing literature, although many studies on digital financial inclusion have emerged, the concept has not yet been generally understood. There are various views on what DFI is among authors, academics, and researchers. According to Ozili (2022), those who lack knowledge on the meaning of DFI have formed their own abstract meaning of the concept. Digital financial inclusion is understood as the process which ensures availability, easy access and use of formal digital financial products, services, and technologies for all members of the economy (Ozili, 2022). It involves efforts to bring unbanked adults to the formal financial sector by providing financial products and services to the unbanked adults using devices with digital interfaces such as mobile cellphones and other digital devices (Chibesa & Mwange, 2025; Peric, 2015). Tay, Tai and Tan (2022) define DFI as the situation where all societies and individuals enjoy cost-saving financial products and services digitally. Chinoda and Kapingura (2024) state that DFI is the percentage of firms and individuals with access to formal financial services via digital platforms. In a different perspective, Aziz and Naima (2021) argue that DFI is the connection of financial inclusion (financial literacy and access), digital inclusion (affordability, accessibility and capability) and social inclusion (social capital and social networks) as illustrated in Figure 1.

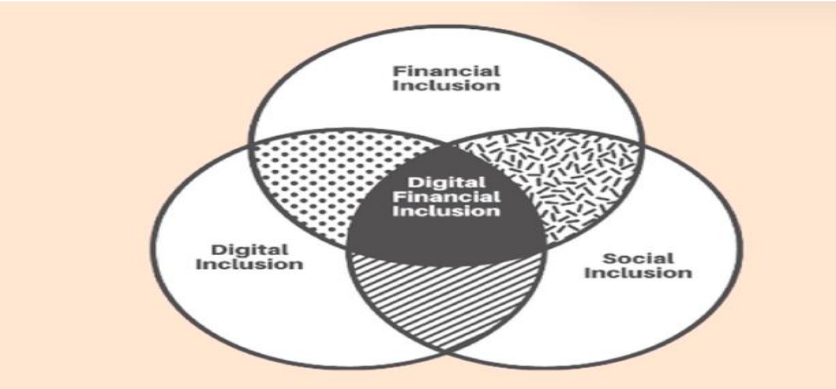

Figure 1: Framework for digital financial inclusion (Source: Aziz and Naima (2021, p.3)

 E-ISSN: 2959-9121

2.2 Theoretical foundation

The main theory directing the research is the Systems theory of financial inclusion developed by Ozili (2020). This systems theory states that financial inclusion can be driven by existing sub-systems including economic, financial and social systems which influence usage and adoption of formal financial products (Ozili, 2020). The main sub-systems with influence on financial inclusion according to the theory include the digital financial services sub-system, the social sub-system, the local mercantile sub-system, the institutional sub-system, the environmental sub-system and the financial sub-system (Ozili, 2024b). Furthermore, the suggests that effectiveness and efficiency of sub-systems such as social and economic systems can determine success or failure of financial inclusion agendas (Beloke et al., 2024).

According to Ozili (2024a), the theory predicts that the sub-systems such as social and economic systems contain factors which drive or inhibit financial inclusion. In other words, the theory recognizes the significant role of existing social, economic and financial systems in promoting and driving financial inclusion (Ozili, 2020; 2024b). According to Ozili (2024a), the theory compliments other financial inclusion theories by showing how social and economic sub-systems can accelerate or inhibit access and usage of formal financial services by those in need of them. In this regard, the theory was found relevant to explain the socioeconomic determinants for digital financial inclusion. However, the theory has been heavily criticised for ignoring the influence of other factors outside sub-systems and for assuming on direct relationship between factors from the sub-systems and financial inclusion (Beloke et al., 2024; Ozili, 2020).

2.3 Empirical evidence on socioeconomic determinants for digital financial inclusion

A study in the context of China by Liu, Huang and Huang (2021) studied the determinants and mechanisms of digital financial inclusion comparing rural and urban households. The empirical results indicated that secondary education was the only significant determinant for digital financial inclusion. The research by Solarz and Adamek (2022) also found lack of education, lack of social networking, poor internet access and financial literacy as the key determinants for digital financial exclusion in Poland. Cuéllar (2024) also found that social capital is of great importance for promoting digital financial inclusion.

Furthermore, Ljumović, Jakšić and Trajković (2021) studied the socio-demographic characteristics for usage of digital financial services using evidence from Serbia employing the cross-sectional descriptive research design. The findings revealed that socio-demographic factors such as education and age were significant determinants whilst gender and income level were statistically insignificant determinants.

 E-ISSN: 2959-9121

In the context of Pakistan, Noreen, Ghazali and Mia (2021) assessed the impacts of perceived trust and perceived risk as the determinants of mobile money adoption. The cross-sectional survey design where data from structured questionnaires was analysed using the PLS-SEM technique. The research found that perceived risk and perceived trust were significant factors for mobile money adoption. Another case-study research by Angeles (2022) found significant positive moderating effects of digital and financial literacy on digital financial products, services and behaviours of MSMEs in the Philippines.

Employing the desk research methodology, Oktafian-Histori (2022) examined the influence of social influence and financial literacy on the utilisation of digital payment methods using the literature review methodology. The findings indicated that social influence and financial literacy have substantial impacts on utilization of digital financial systems. Using the similar literature review methodology, Sumartini et al. (2024) found that self-efficacy and digital financial literacy increase the intentions to use digital banking services and products.

Ali and Ghildiyal (2023) analysed the socioeconomic determinants of digital financial inclusion in India. The study found significant associations between the socioeconomic factors such as education, income, gender, age and occupation and digital financial inclusion. The marginal effect analysis indicated that socioeconomic factors, banking behaviour and mobile phone ownership have significant impact on digital financial inclusion. Similarly, the studies by Ghosh and Chaudhury (2022) and Banerjee and Pradhan (2024) also found that income, education, age and gender are the most significant determinants for usage of digital financial services in India.

More recently, Pattnayak and Sahoo (2024) studied the socio-demographic determinants of digital financial inclusion in India. The study collected primary data using questionnaires which was analysed using descriptive and multiple regression establishing that age, education, gender, social stratification and influence, income and occupation were important factors which significantly determine digital financial inclusion. Olaniyi (2022) also showed that financial literacy, unemployment, infrastructure and standard of living are significant determinants of digital financial inclusion.

Anane and Nie (2022) examined determinants for digital finical services' usage and adoption using evidence from Ghana. The logit regression analysis revealed that effort expectancy, transaction cost, awareness, trust, security, privacy and self-efficacy had significant positive influence on digital finical services' usage and adoption. Museba, Ranganai and Gianfrate (2021) also found that trust play significant role in adoption and utilisation of DFS in Uganda. Using the same methodology, the study by Chawla et al. (2023) also found that perceived trust plays a substantial role in driving adoption and

 E-ISSN: 2959-9121

utilisation of digital Fintech products and services in India. The study by Adhikari, Ghimire and Lama (2024) confirmed that digital financial literacy is an important mediator between use of FinTech and digital financial inclusion.

2.4 Conceptual Framework

DFI determinants were conceptualized as social and economic determinants. The conceptual framework for the study showing the independent, moderating and dependent variables is shown in Figure 2.

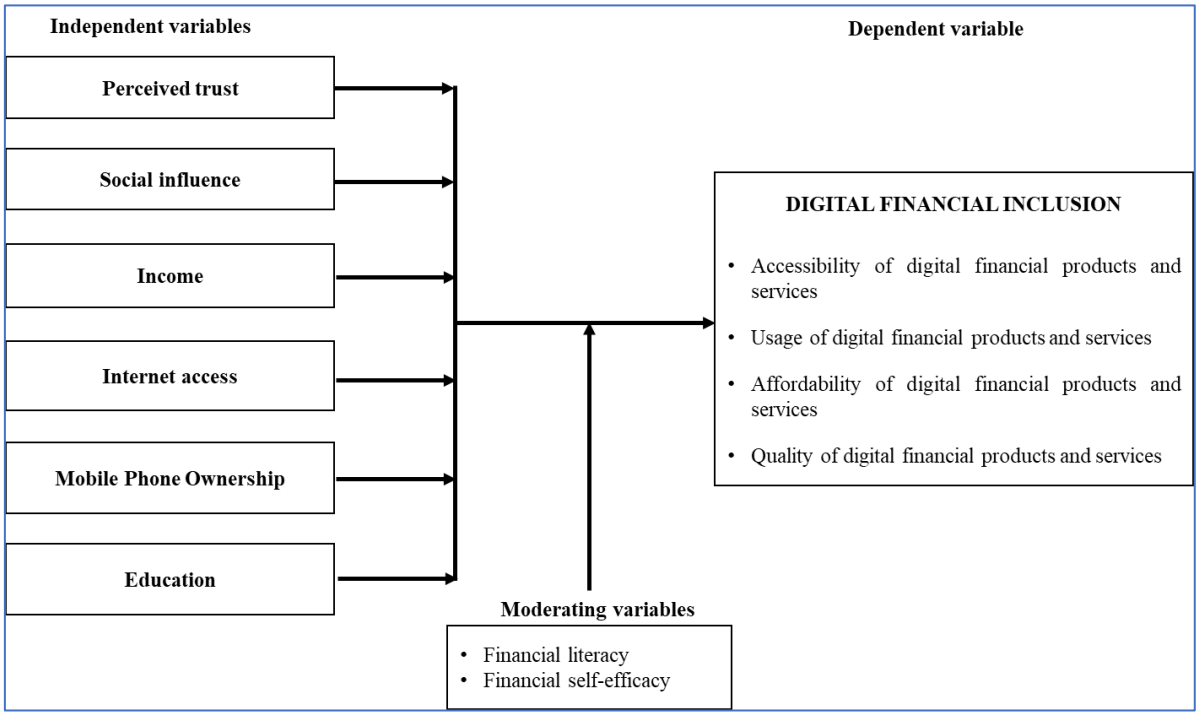

Figure 2: Conceptual framework (Source: Author, 2025)

3. Methodology

3.1 Research Design

The quantitative research employed the cross-sectional descriptive research design. A cross-sectional descriptive case study research design was used because it allowed for data collection from multiple informal traders at the same time and ensured that multiple responses to the same problem were captured within a short period of time thereby enhancing external validity of the research study. The design was specifically employed to explain the socioeconomic determinants of digital financial inclusion among informal market traders in Zambia.

 E-ISSN: 2959-9121

3.2 Study Area

The study site for the research is the Lusaka City Market (LCM) situated in the heart of Lusaka town along Lumumba Road. Currently, the LCM has the population of 4,000 informal traders and is made up of 6 sections identified by colours namely Light Yellow, Green, Purple, Yellow, Pink and Dark Yellow (Lusaka City Council, 2023). Each of these six sections has 610 stands implying a total of 3,660 stands (Lusaka City Council, 2023). The LCM is run and managed by the Lusaka City Council.

3.3 Population and Sampling

The target population of this research included all the 4,000 informal market traders at the Lusaka City Market. For the quantitative survey, the sample size was determined based on the Krejcie and Morgan's (1970) table. Basing on the table, given a population size (N) of 4,000, the minimum sample size (S) must be 351. Henceforth, the sample size for the study consisted 351 informal traders at the Lusaka City Market. The stratified random sampling technique was employed.

3.4 Data Collection Instruments and Procedures

The study gathered primary data making use of structured survey questionnaires. Structured questionnaires were used. Items in the questionnaire were measured on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5 = strongly agree). Table 1 shows how the variables were measured and captured in the questionnaire.

Table 1: Measurement and operationalization of variables

Variable	Measurement of variable	Type of variable
Digital financial inclusion	5-point Likert scale based on the scales adapted from Khamis (2021) and Sharimakin and Akinlo (2024).	Nominal
Financial literacy	5-point Likert scale based on the scale by Baistaman *et al.* (2020)	Nominal
Financial self-efficacy	5-point Likert scale based on the Financial Self-Efficacy Scale (FSES) developed and validated by Nguyen (20160	Nominal
Perceived trust	Perceived trust was measured using a Likert-based scale adapted from Bongomin and Ntayi (2020) and Chawla *et al.* (2023).	Nominal
Social influence	Social influence was measured using the subjective norms scale adapted from Setyo *et al.* (2024)	Nominal
Income	= 1 for average monthly income of < ZMW1,000 = 2 for average monthly income of ZMW1,000 –	Ordinal

 E-ISSN: 2959-9121

	ZMW1,999 = 3 for average monthly income of ZMW2,000 – ZMW2,999 = 4 for average monthly income of ZMW3,000 – ZMW3,999 = 5 for average monthly income of ZMW4,000 – ZMW5,000 = 6 for average monthly income of more than ZMW5,000	
Mobile phone ownership	= 1 if respondent owns a mobile phone = 2 if respondent does not own a mobile phone	Dichotomous
Internet access	= 1 if respondent has access to the Internet = 2 if respondent lack access to the Internet	Dichotomous

Prior the data collection, the researcher sought authorization from the university as well as permission from the Lusaka City Market. The researcher also employed five trained research assistants who assisted in data collection particularly helping with administering of the questionnaires. That collection was done in the month of November 2024 and the data collection process was completed in a period of two weeks.

3.5 Validity and Reliability

For validity and reliability, the survey questionnaire was pilot tested to a sample of 35 informal market traders from the Soweto Market in Lusaka district based on the rule of the thumb that approximately 10% of the study sample must constitute the sample of the pilot study (Viechtbauer et al., 2015). For reliability, the study used the Cronbach's alpha (α) test. Reliability and convergent and construct validity were also assessed using composite reliability (CR) and average variance extracted (AVE). The results are shown in Table 2.

Table 2: Validity and reliability statistics

Construct	N of Items	Cronbach's alpha	Composite reliability	AVE
Digital Financial Inclusion	7	0.971	0.971	0.828
Digital Financial Literacy	4	0.933	0.904	0.769
Financial Self Efficacy	6	0.955	0.959	0.784
Perceived Trust	7	0.951	0.959	0.742
Social Influence	5	0.947	0.967	0.791

 E-ISSN: 2959-9121

3.6 Data Analysis

Data was analysed using quantitative analysis techniques. For quantitative data from the survey, descriptive, correlation and SEM techniques were employed. The quantitative data was analysed using the Smart-PLS 4 statistical software.

3.7 Ethical Considerations

This study adhered to all the ethical issues pertaining data collection, protection and analysis throughout the study. This was not only meant to comply with ethical procedures and regulations, but also to offer guidance on the principles and procedures for undertaking research ethically as outlined by Saunders, Lewis and Thornhill (2020).

4. Results and Discussion

4.1 Response rate

The study administered a total of 351 questionnaires to the informal market traders at the LCM. However, 43 questionnaires were not returned. Among the returned questionnaires, 21 of them were found to be partially completed such that the questionnaires were discarded leaving a total of 287 questionnaires retained for analysis translating to a survey response rate of 81.8%.

4.2 Demographic characteristics of participants

From the findings, 59% of the participants were females whilst 41% were males whilst 43% were aged between 25 and 35 years. In terms of education, 50% had attained tertiary education whilst 39% had secondary education. Additionally, most of the participants (69%) had average monthly incomes between ZMW2,000 and ZMW3,000.

4.3 Presentation and analysis of the PLS-SEM results

The PLS-SEM measurement model is presented in Figure 3.

 E-ISSN: 2959-9121

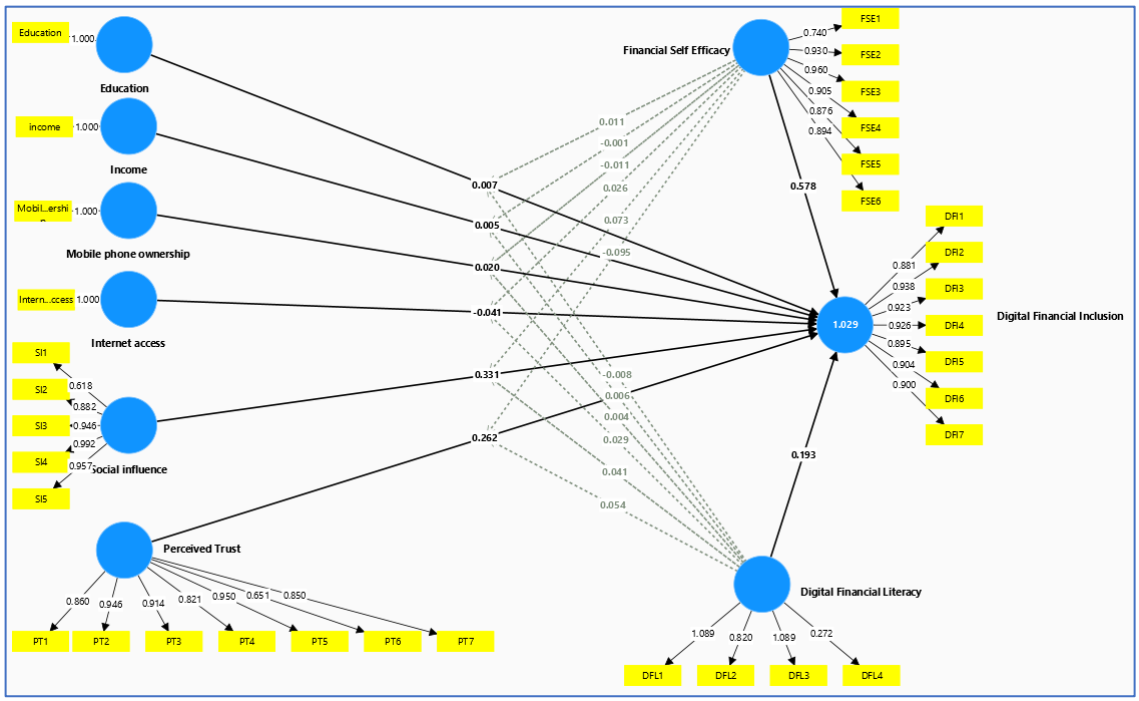

Figure 3: The PLS-SEM measurement model

The results in Figure 3 show the direct and moderate (indirect) effects of digital financial literacy, income, education, internet access, mobile phone ownership and financial self-efficacy on digital financial inclusion. The results in Figure 3 show positive direct effects of social influence (β = 0.330), perceived trust (β = 0.244), digital financial literacy (β = 0.183) and financial self-efficacy (β = 0.526). Table 3 presents summary of the path coefficients for the direct effects between the variables (latent variables).

Table 3: PLS-SEM model results for direct relationship hypotheses

Relationship	Path coefficient	t-value	p-value	Decision
Education -> DFI	0.007	0.546	0.585	Not supported
Income -> DFI	0.005	0.284	0.776	Not supported
Internet access -> DFI	-0.041	0.558	0.400	Not supported
Mobile phone ownership -> DFI	0.020	0.842	0.577	Not supported
Perceived Trust -> DFI	0.262	5.534	0.000	Supported
Social Influence -> DFI	0.331	13.548	0.000	Supported

The results in Table 3 indicate significant positive relationships between perceived trust (PT) and DFI (β = 0.262; t = 5.534; p = 0.000) and social influence (SI) and DFI (β = 0.331; t = 13.548; p = 0.000). Since the p-values were less than 0.05 and the t-statistics were more than the minimum threshold of 1.96 (Hair et al., 2015), the research

 E-ISSN: 2959-9121

hypotheses pertaining to perceived trust and social influence were found supported at 5% level. The findings concur with the Ozili's (2020) systems of financial inclusion which predicts that social sub-systems have significant impact on financial inclusion. The findings also align with the findings by Cuéllar (2024), Pattnayak and Sahoo (2024) and Oktafian-Histori (2022) which revealed significant impact of social influence and trust on digital financial inclusion.

However, insignificant relationships were found between education and DFI (β = 0.007; t = 0.546; p = 0.585); income and DFI (β = 0.005; t = 0.284; p = 0.776); internet access and DFI (β = -0.041; t = 0.558; p = 0.400) and mobile phone ownership and DFI (β = 0.020; t = 0.842; p = 0.577). Furthermore, Table 4 indicates the PLS-SEM moderating results for the hypotheses on moderating effects of digital financial literacy and financial self-efficacy.

Table 4: PLS-SEM model results for moderating relationship hypotheses

Relationship/Path	Path coefficient	t-statistics	P-value	Decision
Financial Self Efficacy x Education -> DFI	0.011	0.688	0.491	Not supported
Financial Self Efficacy x Income -> DFI	-0.001	0.071	0.943	Not supported
Financial Self Efficacy x Mobile phone ownership -> DFI	-0.011	0.168	0.867	Not supported
Financial Self Efficacy x Internet access -> DFI	0.026	0.530	0.596	Not supported
Financial Self Efficacy x Social influence -> DFI	0.073	1.814	0.070	Not supported
Financial Self Efficacy x Perceived Trust -> DFI	-0.095	3.239	0.001	Supported
Digital Financial Literacy x Perceived Trust -> DFI	0.054	1.975	0.048	Supported
Digital Financial Literacy x Social influence -> DFI	0.041	0.288	0.773	Not supported
Digital Financial Literacy x Internet access -> DFI	0.029	0.627	0.531	Not supported
Digital Financial Literacy x Mobile phone ownership -> DFI	0.004	0.108	0.914	Not supported
Digital Financial Literacy x Income -> DFI	0.006	0.429	0.668	Not supported
Digital Financial Literacy x Education -> DFI	-0.008	0.405	0.685	Not supported

 E-ISSN: 2959-9121

The findings in Table 4 indicate that financial self-efficacy (FSE) significantly moderates the relationship between perceived trust (PT) and DFI (β = -0.095; t = 3.239; p = 0.001). On the other hand, the results indicate that digital financial literacy (DFL) significantly moderates the relationship between perceived trust (PT) and DFI (β = 0.054; t = 1.975; p = 0.048). Angeles (2022) also found significant positive moderating effects of digital financial literacy on digital financial inclusion. Similarly, Noreen et al. (2021) found that financial literacy mediates the influence on financial inclusion. The findings are consistent with Adhikari et al. (2024) who confirmed that digital financial literacy is an important mediator between use of FinTech and digital financial inclusion. Conversely, financial literacy and financial self-efficacy were found to have no significant moderating relationships between education, income, internet access and mobile phone ownership and DFI.

5. Conclusion

5.1 Conclusions

The main purpose of the research was to examine socioeconomic determinants of DFI among informal market traders in key informal markets in Zambia using a case study of the Lusaka City Market. The study concluded that digital financial literacy, trust and social influence represent significant determinants for digital financial inclusion among the informal traders in informal markets. The study further concluded that digital financial literacy and financial self-efficacy have both direct and indirect impacts on digital financial inclusion. The other conclusion drawn was that education, internet access and income status are not significant determinants for digital financial inclusion of the traders at the Lusaka City Market.

5.2 Implications and Recommendations

The findings had notable implications for policy and practice towards sustainable digital financial inclusion.

1. The study recommended providers of financial services and products in Zambia to consider investing in building trust and confidence in their services and products by enhancing security.
2. The study recommended digital financial service providers to consider engaging informal groups or associations for the informal traders. This will aid in creating awareness on financial digital products and services as well as boosting trust leading to increased usage and adoption of digital financial services and products.

3. The study recommended the Government of Zambia to consider investing in ICT and internet infrastructure to ensure increased adoption and utilisation of digital products and services by the informal traders who currently face the challenge of internet access and connectivity.

5.3 Limitations and areas for further research

The research was not conclusive as it had its own limitations which necessitate further research. Firstly, the research recommends for further research to focus on a large sample of informal markets or carrying out similar researches in other informal markets in Zambia. More so, the study indicated the need for more comprehensive research that covers a larger set of the socioeconomic determinants for digital financial inclusion or examining other determinants such as cultural and institutional determinants.

References

Adhikari, M., Ghimire, D. M., & Lama, A. D. (2024). FinTech and Financial Inclusion: Exploring the Mediating Role of Digital Financial Literacy in Enhancing Access to Financial Services. Journal of Emerging Management Studies, 1(2), 117-136.

Ali, J., & Ghildiyal, A. K. (2023). Socioeconomic characteristics, mobile phone ownership and banking behaviour of individuals as determinants of digital financial inclusion in India. International Journal of Social Economics, 50(10), 1375-1392.

Anane, I., & Nie, F. (2022). Determinants factors of digital financial services usage and adoption level: Empirical evidence from Ghana. International Journal of Management Technology, 9(1), 26-47.

Angeles, I. T. (2022). The moderating effect of digital and financial literacy on the digital financial services and financial behavior of MSMEs. Review of Economics and Finance, 20(20), 505-515.

Aziz, A., & Naima, U. (2021). Rethinking digital financial inclusion: Evidence from Bangladesh. Technology in Society, 64, 1-10.

Banerjee, A. K., & Pradhan, H. K. (2024). Influence of demographic profiles in adoption of digital payment system in India: a multigroup invariance analysis. Technology Analysis & Strategic Management, 36(10), 2285-2301.

Beloke, N. B., Osabuohien, E. S., Serge, M. E., & Assoua, J. E. (2024). Financial Inclusion, Concepts, and Theories. In The Economics of Financial Inclusion (pp. 19-32). Routledge.

 E-ISSN: 2959-9121

Chawla, U., Mohnot, R., Singh, H. V., & Banerjee, A. (2023). The mediating effect of perceived trust in the adoption of cutting-edge financial technology among digital natives in the post-covid-19 era. Economies, 11(12), 286-296.

Chibesa, K., & Mwange, A. (2025). The Role of Digital Financial Literacy in Enhancing Financial Inclusion Among Informal Entrepreneurs in Zambia. East African Finance Journal, 4(1), 141-146.

Chinoda, T., & Kapingura, F. M. (2024). Digital financial inclusion and economic growth in Sub-Saharan Africa: the role of institutions and governance. African Journal of Economic and Management Studies, 15(1), 15-30.

Cuéllar, L. I. P. (2024). The Importance of Social Capital in Promo-ting Financial Inclusion: An International Perspective. Scientific Annals of Economics and Business, 71(2), 221-240.

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Publications.

Ghosh, C., & Chaudhury, R. (2022). Determinants of digital finance in India. Innovation and Development, 12(3), 343-362.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2015). Multivariate data analysis. Cranbury, NJ: Pearson Education.

Inambao, W., Phiri, J., & Kunda, D. (2018). Digital identity modelling for digital financial services in Zambia. ICTACT Journal on Communication Technology, 9(3), 1829-1837.

Krejcie, R. V., & Morgan, D. W. (1970). Sample size determination table. Educational and psychological Measurement, 30, 607-610.

Liu, G., Huang, Y., & Huang, Z. (2021). Determinants and mechanisms of digital financial inclusion development: Based on urban-rural differences. Agronomy, 11(9), 1833-1843.

Ljumović, I., Jakšić, K., & Trajković, S. (2021). Socio-demographic characteristics of digital financial services users: evidence from Serbia. Ekonomika, 67(4), 55-64.

Museba, T. J., Ranganai, E., & Gianfrate, G. (2021). Customer perception of usage and adoption of digital financial services and mobile money services in Uganda. Journal of Enterprising Communities: People and Places in the Global Economy, 15(2), 177-203.

Noreen, M., Ghazali, Z., & Mia, M. S. (2021). The impact of perceived risk and trust on adoption of mobile money services: An empirical study in Pakistan. The Journal of Asian Finance, Economics and Business, 8(6), 347-355.

Oktafian-Histori, S. (2022). Financial Literacy, Social Influence and The Use of Digital Payments: A Literature Review. In Proceeding of The International Conference on Economics and Business (Vol. 1, No. 2, pp. 206-220).

Olaniyi, E. (2022). Social and institutional determinants of digital financial inclusion in Africa: A system GMM approach. MPRA Paper No. 117006

Ozili, P. K. (2020). Theories of financial inclusion. In Uncertainty and challenges in contemporary economic behaviour (pp. 89-115). Emerald Publishing Limited.

Ozili, P. K. (2022). Digital financial inclusion. In Big Data: A game changer for insurance industry (pp. 229-238). Emerald Publishing Limited.

Ozili, P. K. (2024a). Systems theory of financial inclusion. Emerald Publishing Limited.

Ozili, P. K. (2024b). Digital Agency Theory of Financial Inclusion: A Theory of Digital Financial Inclusion. In Developing Digital Inclusion Through Globalization and Digitalization (pp. 53-69). IGI Global. https://doi.org/10.4018/979-8-3693-4111-7.ch004

Parvin, S. R., & Panakaje, N. (2022). A study on the prospects and challenges of digital financial Inclusion. International Journal of Case Studies in Business, IT and Education (IJCSBE), 6(2), 469-480.

Pattnayak, N.C. & Sahoo, R. (2024). A study on Socio-Demographic perspective of Digital Financial Inclusion in Rural Odisha. Communications on Applied Nonlinear Analysis, 31(7), 239-249.

Peric, K. (2015). Digital financial inclusion. Journal of Payments Strategy & Systems, 9(3), 212-214.

Saunders, M., Lewis, P. & Thornhill, A. (2020). Research methods for business students. Pearson education.

Simuchimba, B., Mudenda, D. S., & Phiri-Mumba, R. (2024). The Informal Sector in Zambia. The Oxford Handbook of the Zambian Economy, 145.

Siwela, G., & Njaya, T. (2021). Opportunities and challenges for digital financial inclusion of females in the informal sector through mobile phone technology: evidence from Zimbabwe. International Journal of Economics, Commerce and Management, 9(3), 60-78.

Solarz, M., & Adamek, J. (2022). Determinants of digital financial exclusion as a barrier to the adoption of mobile banking services in Poland. Ekonomia i Prawo. Economics and Law, 21(2), 1-10.

Sumartini, A. R., Suprapti, N. W. S., Piartrini, P. S., & Sukaatmadja, I. P. G. Digital Financial Literacy and Self-efficacy in Increasing Intention to Use Digital Bank with the

 E-ISSN: 2959-9121

TECHNOLOGY Acceptance Model Theory Approach: A Literature Review. International Research Journal of Management, IT and Social Sciences, 11(6), 252-263.

Tay, L. Y., Tai, H. T., & Tan, G. S. (2022). Digital financial inclusion: A gateway to sustainable development. Heliyon, 8(6), 1-11.

Viechtbauer, W., Smits, L., Kotz, D., Budé, L., Spigt, M., Serroyen, J., & Crutzen, R. (2015). A simple formula for the calculation of sample size in pilot studies. Journal of clinical epidemiology, 68(11), 1375-1379.