

The Factors Affecting the Adoption of Financial Technologies (Fintech) by Tanzania's Informal Sector for the Growth of Their Assets

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ABSTRACT

Tanzania has a significant presence of informal employment, with a substantial portion of its workforce engaged in the informal sector. This segment of the economy is characterized by activities that are not regulated by the government and often lack formal documentation, such as contracts or social security benefits. The informal sector in Tanzania is substantial in size, contributing notably to the country's overall economic activity. The application of the FinTech have played major roles to the informal sector effecting and improving business performance as far as financial transactions are involved creating future sustainability to the specific businesses done by the use of different financial system and tools applied. The aim of the present research is to cast light on the positive factors and barriers affecting the adoption of the financial technologies by the informal sector of Tanzania and its implication on the assets growth. Similar to many Sub-Saharan African countries.

This study employs a thematic review as a secondary research method. This approach involves a meticulous examination of peer-reviewed articles and academic journals. The objective of this research is to identify the factors that both facilitate and impede the adoption of Fintech in the informal sector. By analyzing these factors, the study aims to understand how the adoption processes influence the use of Fintech and subsequent asset growth, which in turn affects business development. To gather relevant literature, keyword searches will be conducted on academic databases such as Google Scholar and Mendeley

The study reveals that the adoption of Fintech in the informal sector is influenced by a range of internal and external factors. Internally, attitudes and perceptions play a role, while externally, socio-cultural, economic, and political factors are at play. Factors that facilitate adoption include the desire to expand market and client bases and to enhance customer satisfaction. In line with other African countries, a significant portion of employment in Tanzania is within the informal sector, where Fintech remains underutilized. The primary barriers to technology adoption are social and economic, leading to a reluctance among individuals to embrace digital financial services. However, the study suggests that with access to reliable internet and smartphones, individuals are more likely to use digital banking. Mobile phones are the predominant device used for implementing Fintech in informal businesses, as indicated by various studies.

Therefore, the study recommends that access to financial technologies for offering financial services should consider; costs, continuous training to enhance digital literacy, a set of proper and fair trade policies, and ensuring stakeholder participation in informal sectors like; provision of loans and other free financial support, workshops and gatherings. This will help many informal businesses to have better performance as well as enhance the technological innovations for their self-business growth that assist in the contributions of the individual and government economies.

Keywords: Informal Sector, Fintech adoption, factor affecting the adoption of FinTech, Informal businesses, informal sector growth, Tanzania.

INTRODUCTION

The informal sector plays a crucial role in Tanzania's economy, employing a large segment of the labor force and making a big contribution to the GDP of the nation (George & Olan'g, 2020); (Lambin & Nyssölä, 2022); Steiler & Nyirenda, 2021a). The access to reliable and affordable financial services to the majority of the Tanzanians matters in fostering economic development through realization of the industrialization agenda and Vision 2025 (Mbowe et al., 2020).

The technology innovation has been so important assuring better financial services are practiced through the adoption of various FinTech by Informal sector businesses for their future development and sustainability. Under the Digital Tanzania Programme, the Government wishes to reduce the people's dependency on foreign technology and foster skills that can help build the technologies within the country (Forbes 2023, n.d.). Some of the most used FinTech in Tanzania are such as; mobile money platforms such as M-Pesa, airtel money, Tigo Pesa and Halopesa, which facilitate financial transactions through mobile devices, have begun to close the gap between formal financial services and the unorganized sector (Abiona & Koppensteiner, 2022).

Also mobile banking which is defined as the new technology that enables individuals to access financial services through their mobile phones (Mkaro et al., 2023). It refers to an application of mobile devices such as cell phones and personal digital assistants (PDAs) in setting up banking entrances using the non-electrical conductor Furthermore the online banking, Government Electronic Payment Gateway (GEPG) which is the centralized system introduced by the government connected to all available electronic revenue collection channels to facilitate electronic money transaction from public to government and vice versa introduced by the ministry of finance as an amendment in the finance Act 2017 allowing all public money to be collected in electronically through the GEPG-System (GEPG 2018, n.d.). The systems also helps the government to ensure that all revenues collected can be visible at real time required. Local and international start-ups in the country have increased, with penetration levels reaching up to 46% of the population (Ngila, 2021)

Apart from the government initiatives towards effecting technology innovations are taking place in different sectors, still there has been challenges on how the respective groups can easy adopt the change and further help them in their future performance. There are major factors that seem to affect the adoption process of Fintech by the informal sector for their future growth.

Considering Tanzania, mobile money transfer and other digital transactions only occur from person to person. Studies have shown that, at present, much of the informal sector however they have phone which can connect such services but still they use cash sending to their suppliers, and receiving payments from consumers. 39% of the informal sector pay and receive payments themselves (Esselaar & Adam, 2013). While there is potential, a lack of awareness about digital transactions thus FinTech limits the adoption process to the technology. Results from the informal organizations that have started using digital money show that 58% of businesses adopting their business has increased. Therefore the study will focus on thematically analysing the major factors affecting the adoption process of the FinTech by the informal sector in their daily performance to assure future assets growth as well as general business development.

Problem Statement

Tanzania has huge rate of informal sector which employs more people in the country. A study by Statista (2024) has shown that nearly one-third of the country relies on informal sectors for employment, with the rates reaching 62% in the country's largest city, Dar es Salaam. Although the increase in financial access points has helped connect more people but still informal businesses fails to adopt the FinTech introduced in the business environment by different institution, government and stake holders. This has been caused by several factors where The need to address the factors affecting both positive and negative have been so important for researchers to help them realize and know how they can better adopt and copy with the technological innovation in this area for their future business growth and better performance.

More exploration is needed to address these factors that affects the whole adoption process and later pinpoint

the advantages of the technological innovation adoption to business practice as still Many e-commerce users have shown resistance towards using Fintech and other related technologies by informal sector businesses in Tanzania (Pankomera & van Greunen, 2019).

Research Objectives

This study's main objective is to perform a review study thus thematic review on factors affecting the usage of the FinTechs by the informal sector in Tanzania's for their assets growth.

Research Question

- What are the factors facilitating and hindering the effective adoption of the Fintech by the informal sector for the growth of their assets?

Rationale

The informal sector in Tanzania has significant economic potential, but many of its workers do not have access to the financial tools needed for efficient daily business operations. Financial technologies (Fintech) offer promising solutions that can help informal businesses, such as street vendors, to transact and manage finances more effectively (Rumanyika et al., 2019). Despite this, Fintech adoption is not widespread. Through a review of various literature, including previous studies and theories on technological adoption, this research aims to pinpoint the factors affecting Fintech adoption in Tanzania's informal sector. Gaining this understanding will enable the development of strategies to increase awareness and encourage the use of Fintech services, thereby improving economic opportunities for informal businesses.

LITERATURE REVIEW

The related concepts

Informal sector

Ernest (2020) says, these are economic activities operating informally encompasses different activities mostly small scale with low capital operating outside the formal structure of the government. They are entitled with informal tax regulation, informal registrations systems and other legal status that are opposite compared to the formal government business regulations. They involve mostly street vendors that operates informally compared to formal due to their nature. Informal sector have also economic contribution to both individual and country's development which plays a role as an integral part of several sub-Saharan African (SSA) countries and plays a key role in the economic growth of these countries (Etim & Daramola, 2020).

Informal business

This is a unit or part within the informal sector which involves different businesses conducted by individuals towards meeting the needs and wants of clients. More clarification was given by Rwelamila (2021) describing the informal businesses as individuals or business startups without formal registration whereby they are mushrooming in sub-Saharan Africa (Madichie et al., 2021). The informal work is standard among most youth on the continent meanwhile transforming this sector using digital tools is vital and more valuable for Africa's economic growth. Informal businesses are the unit in the informal sector that our study has fully focused examine the adoption of the Fintech and its impact on the assets growth.

FinTech Adoption

These are programs, systems, various technological advancements and digital tools and platforms used in the financial services industry by both informal and formal sector operations to improve operations, increase productivity, enhance customer experiences, increase security, and facilitate financial transactions and management. Msamba (2022) pointed out that banking technology such as mobile banking from different financial institutions like CRDB, NMB in Tanzania has shown positive impact on the quality of banking

services offered (Msamba et al., 2022). They involve; Digital banking apps and online services, Agent Banking, Mobile Money (Mpesa, Tigopesa, and Artel Money), ATMs and Cash Machines, POS Terminals, Biometric Authentication, Remote Kiosks, E-wallets.

Factors affecting the adoption process

These involve both positive and negative factors that affect the whole process of the adoption of Fintech by the Informal sector in specific areas targeted. The focus is on both internal and external business environments. Internal involves the one found within individual businesses while external are the ones found outside the business environment but have an effect on business performances.

Theoretical Framework:

This study is grounded in numerous theories and models that explore technology adoption processes, factors affecting, and other dynamics of the informal sector. There is a prominent framework known as the Diffusion of Innovations theory by Everett Rogers (1995). This theory explores into the factors that impact the spread of new concepts and technology within different cultures, which clarify how, why, and at what rate of adoption. This theory is mostly suitable for grasping the adoption patterns of financial technologies in the informal sector (Leila, 2023). It observes numerous factors that contribute to the adoption rates, including the demographics of users, advantages of the technology, and the influence of change agents.

The other theory is the Theory of Reasoned Actions "TRA" which involves attitude towards engaging in some volitional behavior. The theory was introduced by Fishbein and Ajzen in 1975, suggesting that an attitude towards performing some behavior is a function of the beliefs that one holds regarding the behavior (Hoque et al., 2021). The portion of the TRA is taken from the Fishbein's (1967a, 1967b). Therefore, related to our study, individual Attitude towards something will be considered as the factor affecting the adoption of FinTech by the Informal sector assets growth. This means Attitude has an effect on decisions making. The Theory will help the researcher to further realize thus how individuals' attitudes related to different beliefs has an implication on the adoption of financial technologies in the informal sector and its impacts on Assets growth.

The theory of Technological Acceptance Model (TAM). In 1989, Davis developed a TAM that seems to highlight human behaviours accepting new technologies by individual. The model accounts for why the users use or reject the technology (adopting it), and how the user's acceptance is affected by the design features of the product or the technologies in this study context. However, when these factors are sub-categories, design, perceived usefulness and easy to use, and attitudes and usage behaviours emerged as prominent issues affecting use.

Unified theory of acceptance and use of technology (UTAUT) and its modification (UTAUT2) which has three components that influence the use of new technologies as discovered by Silva (1989) and further quoted by Venkatesh (2012). These components include; performance expectancy, effort expectancy and social influence.

Previous Research:

Studies show that the Unified Theory of Acceptance and Use of Technology (UTAUT) is one of the most prominent theories that help with the adaptation of technology; this method analyses the expectancy of the people and facilitates the conditions to help with behavioural intentions (Ayaz & Yanartaş, 2020). The behaviour of the people towards the services needs to be influenced to make people want to use them. Another research has identified social and technical factors responsible for people's resistance towards such services (Alaloul et al., 2020). Internet experience and comfort levels are important factors that contribute to such services' usage (Singh et al., 2020).

The Technology Acceptance Model (TAM) is another model that can be utilized in the present context to evaluate the behavioral intentions of the employees working in the informal sector and increase their acceptance. The theory states that people are only willing to adopt technology based on the perceived ease of use and usefulness of the service (Muchran & Ahmar, 2019). When consumers think that a technology can be easily used, they are more open towards its usage. On the other hand, perceived usefulness increases the

application process; unless a product or service provides some form of benefit over the existing methods they are using, users are not likely to change.

The study done by (Mhando, 2018) has described that, due to lack of proper infrastructure such as well connectivity, has been one of the factor that tend to hinder the effective adoption of the financial technologies in Tanzania, which prevents optimal utilization and implementation of digital services for financial institutions.

However more studies done had shown that, the Lack of capital among micro and small informal entrepreneurs further leads to the minimum use of technology (Aikaeli & Mkenda, 2014).

Research Gaps:

There is little exploration on the precise degree of the potential factors affecting the adoption of FinTech technology on the growth and functioning of Tanzania's informal sectors. A thorough assessment of several factors affecting these technologies adoption process is necessary. By analyzing the relationship between assets growth and technology adoption and identifying the factors that facilitate and hinder informal businesses the research aims to close this gap. Knowledge regarding technological innovations on full adopting of the FinTech must be increased to help the informal sectors operate more efficiently.

Existing research on factors affecting the adoption of financial technology often takes a broad approach, neglecting the specific context of Tanzania. While previous research (Justus, 2023) has highlighted the credit constraint faced by SMEs in Tanzania, it hasn't delved into the specific FinTech adopters influencing factors by the informal sector. Similarly, studies like Siano et al. (2020) explore the importance of mobile banking for financial inclusion, but they don't address the challenges faced by informal workers in adopting these technologies. Therefore his study will cover the foreseen gap.

This study seeks to existing research on factors affecting the adoption of financial technologies by informal sector businesses for their assets growth often lacks a Tanzania-specific focus. This study aims to bridge this knowledge gap by identifying the unique factors influencing and hindering technology adoption within the Tanzanian informal sector. By understanding these, we can develop targeted solutions that empower informal workers to leverage the full potential of financial technologies.

METHODOLOGY

Study Design and data source:

The factors affecting Fintech adoption within Tanzania's informal sector remains under-investigated. To address this knowledge gap, this study employs a thematic review approach.

The thematic review will comprehensively identify and synthesize all relevant research on this topic. It involves identifying, analyzing, and reporting patterns (themes) within the data, which can be drawn from various academic sources such as academic papers obtained from Scopus and Web of Science, reports, grey literature, dissertations, and policy analysis reports. All these will be considered to capture a more comprehensive body of research. Also from technology adoption theories, as well as reports from financial and technological development organizations like the IMF, World Bank will be considered.

Search Strategy, Inclusion and Exclusion Criteria:

In order to find all relevant material, the search technique for this study involves combining keywords and phrases. Search terms such as "FinTech or financial technologies" AND "informal sector" OR "FinTech adoption" AND "assets growth" OR ("Informal businesses " OR "assets accumulation") AND ("factors hindering Fintech Adoption" OR "factors influencing FinTech adoption") OR ("drivers for FinTech adoption by informal sector in Tanzania" OR "obstacles of FinTech adoption by informal businesses in Tanzania") AND "informal economy" was combined in the search threads. The keywords were utilized in various

combinations across numerous databases to assure the retrieval of all appropriate studies, with a specific focus on those that tackle the factors affecting the technological adoption on assets growth within informal sectors.

Research that explicitly examines the impact of communication and banking technologies on capital growth in the informal sector of Tanzania will be included in the study. Research ought to be grounded in empirical and theoretical evidence comprise qualitative data that investigates the factors affecting the technology adoption on assets growth or business expansion. Exclusion criteria will encompass studies lacking relevance to Tanzania, non-empirical research (e.g., opinion pieces), and those that do not explicitly examine the engagement of the informal sector with financial technologies. To facilitate an examination of the impacts of recent technological developments, research articles published before the year 2017 will be omitted.

Data Extraction and Quality Assessment:

To ensure consistent data extraction across all studies included in this review, a standardized form will be used. This form will capture key details like study location, sample size, research design, the technology investigated, its impact on assets growth, and factors influencing adoption (barriers and enablers). This thematic approach allows for efficient data synthesis and summarizing, ultimately enabling a precise analysis of how financial technologies impact assets development within the informal sector. Additionally, the studies included will be evaluated based on predetermined criteria to assess their methodological rigor and trustworthiness. This evaluation will consider aspects like the appropriateness of the research design, data collection and analysis methods, and the clarity of reported results.

RESULTS

This research utilizes thematic analysis of existing studies to explore factors influencing Fintech adoption within Tanzania's informal sector and its impact on business growth. The analysis categorizes these factors into theoretical frameworks (theoretical base factors) and practical business experiences (business experience and other external factors) identified through previous research. By examining both theoretical and practical perspectives, this study aims to comprehensively understand the facilitators and challenges that influence how Fintech adoption can positively or negatively impact the growth of informal businesses in Tanzania.

Factors affecting the adoption of FinTech and their impact on the informal sector growth grounded from the technology adoption theories;

i. Being easy to use to the clients and adopters from the TAM theory of technology.

This is one of the factors that influence the usage of such technology where the more the technology is user friendliness to its expected adopters the more the adoption becomes easy and more attracting to clients. As said by (Li et al., 2021), the digital technologies need to be easy to use with user friend features to become more flexible and create attractive atmospheres.

ii. The usability thus benefit provided by the technology.

The benefits Fintech provide over users thus informal sector is the influential factor that tend to convince them to adopt and implement the technology as said on the study done by (Ayaz & Yanartaş, 2020). The less important it becomes the high the rate of neglecting and not to use it a nymore. Example; in physical banks and other banking services provided they usually evaluate the benefits and what it will offer before its applications. Therefore people are not likely to change unless other attractions are provided by these services.

iii. Fishbein & Ajzen, 1977 from the **Theory of Reasoned Action (TRA)** explained that, individual Attitude towards something will be considered as the factor affecting the adoption of FinTech by the Informal sector for their future growth. This means Attitude has effect on decisions making. This means individuals' attitudes related to different beliefs has implication on the adoption of financial technologies in the informal sector and its impacts affects the growth of these businesses.

Factors as per the review studies done that affects the adoption of Fintech to informal sectors in Tanzania

i. Infrastructures factor to our country.

Poor infrastructures hinder the effective adoption while having better and reliable infrastructure will automatically facilitate the effective FinTech adoption by informal businesses. Technological challenges, including inadequate infrastructure and access to reliable internet services, are identified as barriers to e-commerce implementation among SMEs in the informal sector (Nikundiwe, 2022). Mhando (2018) highlights a significant barrier to Fintech adoption in Tanzania's informal sector are caused by lack of proper infrastructure. This is particularly true in rural areas, where poor internet connectivity to be used in mobile banking as well as MMT. Also limited access to financial service providers due to poor and inadequate roads which make it difficult for informal businesses to access and utilize digital financial services. The unreliable internet discourages them from adopting online banking and other digital tools, while the remoteness caused by poor roads hinders the outreach efforts of financial institutions introducing these technologies. Consequently, informal businesses in rural areas are disproportionately affected by this infrastructural gap.

ii. Limited capital and other financial support among informal businesses

The informal businesses need to have access on affordable Fintech for the easy and permanent adaption the Fintech. This is one of the economic factor that hinder technological adoption. Limited capital and lack of financial support significantly hinder Fintech adoption within the informal sector (Aikaeli & Mkenda, 2014). Informal businesses often lack the upfront costs for necessary devices and data plans, and transaction fees can erode their already tight margins. Furthermore, digital literacy training and access to credit for investment in Fintech infrastructure are often scarce. To bridge this gap, initiatives like microloans, subsidized devices, free training programs, and tiered fee structures specifically designed for informal businesses can be implemented. By addressing these financial constraints, we can empower the informal sector to unlock the potential of Fintech and achieve greater financial inclusion further leads to low use of technology.

Also due to the limited capital thus low income level of the informal sector, they most relay on the local financial institutions in saving their money and getting series instead of adopting on the new financial technologies that would provide innovative and technological financial services to their daily business operations. These local organisations provide people with loans based on their savings and the rates of compensations to these institutions provided are lower than others (Nyangarika & Bundala, 2020). However these local and affordable institutions can provide their services to areas where banks are unattractive and not easy to reach Therefore adopting the FinTech becomes more impossible in these rural areas of Tanzania unless these modern financial technology introduced team provide cheap services as well as the rates that local financial institutions like; VICCOBA, SACCOS has been providing them.

iii. Literacy and illiteracy rate.

Lack of awareness and training on FinTech involving the electronic fiscal devices used was identified as a significant barrier for informal businesses in financial transactions, highlighting the need for educational initiatives to enhance understanding and usage. Due to lack of enough trainings and awareness on financial technologies, has led to the decrease in literacy rate and increase in illiteracy towards technological adoption where many people become more ignorance on the technology innovation concept like; Lack of awareness of Internet banking and the potential that it can provide to the informal sector (Kessy, 2021), lack of familiarity with smartphones or the internet usage within a community of street vendors which has hinder their ability to utilize mobile payment systems. (Gomera, 2020) said that, in order to increase the adoption rates, the microfinance institutions of Tanzania have started to provide people with training, microwaving and loan services to help people understand the prospects it can bring to businesses.

Therefore there is a need to further improve the literacy rate through continuous trainings, workshop to assure huge number of informal businesses understand the importance of technological innovation in their daily business operations for the easy adoption in their business operations (Okoli & Tewari, 2020). Therefore the

more literate rate will be high to the informal business the more the adoption rate is termed to increase due to the better understanding they will all have on technological innovations for assets and general business growth.

iv. Also the management attitudes of the individuals has been one of the factors affecting the process whereby due to negative attitudes people have on the technological innovation seeing it as something that is so new and can't be easily implemented have created failure to effective adoption of deferent financial technologies such as application of the e-commerce systems such as online banking (Nikundiwe, 2022)

v. Government regulations, supportive policies and other structural changes.

The need for the structural change, supportive policies and other government regulations gaps formulate potential roadblocks to the Fintech adoption by the Tanzania's informal sector (Kishimba et al., 2022). Having hard registration process, the unclear regulations on mobile money which is the most used tool, and a lack of better policies that favors Fintech development for informal businesses create barriers ,example; lack of incentives for financial institutions to develop products and services tailored to the needs of informal businesses. Additionally, the exclusion of informal businesses from traditional financial systems hinders their ability to integrate with Fintech solutions requiring bank accounts.

vi. The change in Financial technology due to globalization for better performance and need for market expansions

Due to the need for improving proper business performance to reach the global audience and enhance better financial operations, there is a need to adopt innovative technologies and enhance creative strategies (Mramba et al., 2016). Business owner need to be adaptable and open to adopting new changes in the business landscape. The advent of technological innovations advancements have influenced many informal business to integrate such changes and implement in their daily business operation such as implementing the Online money transfer which is easy and used by many clients in different part of the country, as said by (Ahmad et al., 2020). Through this, many informal sector will be pushed to adopt so that they can have competitive advantage over their competitors in their future business operations. The adoption has led to the increased in effectiveness and efficiency, broader market reach, and improved customer experiences. However staying abreast of technological innovations and leveraging them effectively, businesses enhance their visibility and appeal to a wider audience, ultimately driving growth and success in the global marketplace of the informal sectors.

vii. The need for clients satisfactions to assure better services offered

This has been one of the factors that facilitate the effective adoption of different technologies imposed in the business sectors considering FinTech are involved. (Koloseni & Mandari, 2024) explained that, that the more the innovation is applied in the business the more the practice will be effective and efficient which finally led to meet the needs and wants of expected clients thus producing full customer satisfactions, tailoring the informal sector's needs, ultimately building trust and attracting more clients .Therefore as per the study done, we have realized and seen that, many businesses that are practicing the new technologies introduced, Example the use of online banking after installing the Financial Apps in different devices like phone, mobile money transfer, banking (savings) have facilitated and enhanced customer satisfactions. The systems has results to creation of more value on the services and products offered by the informal businesses. This has also been a good tool for the informal businesses to survive in competitive business environment.

viii. The existence of different socio environmental and cultural factors.

In the study done by (Kessy, 2021), the results indicate that social environment factors are positively related to adoption of internet financial services by customers. However there has been other several socio-cultural factors such as; culture, traditions, religious beliefs, social norms and peer pressure that tend to affect the process. The technology adoption involve the social process on its adoption, (Kee, 2017).Tanzania's informal sector faces unique challenges in adopting Fintech due to socio-cultural factors. Cultural preference for cash, distrust in formal institutions, religious beliefs, limited digital literacy, and social norms can all discourage the use of digital financial tools. (Leila, 2023), Examples; culture that emphasizes saving money in physical form

(e.g; saving in a cash box at home as they believe it will easily multiply, simple to implement without considering the risks encountered like fire, water, theft etc.) might discourage individuals from trusting other digital financial systems like mobile money wallets. Religious beliefs prohibiting the earning of interest could make some informal businesses hesitant to use loan applications offered through Fintech platforms.

ix. The resistance to change of the individuals on technological innovation.

Due to the reluctance of individuals to embrace technological innovation can pose a significant barrier to the successful integration of Fintech within the informal sectors. According to Siraji (2015), this resistance often stems from a reluctance to adopt new technologies and a preference for sticking to traditional, familiar methods. Consequently, individuals may continue to use outdated local financial systems for their daily transactions and other financial services, rather than switching to more modernized alternatives. This resistance not only hampers the expansion of Fintech in these sectors but also leads to suboptimal business performance due to a lack of efficiency and effectiveness.

DISCUSSION

Despite the potential benefits of Fintech for Tanzania's informal sector, widespread adoption faces significant hurdles. While user-friendly interfaces and demonstrably valuable features can entice businesses, several factors create roadblocks. Lack of reliable internet connectivity and limited access to financial service providers, particularly in rural areas, make utilizing these technologies impractical. Furthermore, informal businesses often struggle with limited capital, making the upfront costs of devices, data plans, and transaction fees a barrier to entry. Additionally, low digital literacy rates and a lack of awareness about Fintech solutions leave many potential users hesitant to embrace them. Unfavorable regulations can further complicate adoption. Complex registration processes, unclear regulations surrounding mobile money (a widely used tool), and a lack of policies specifically designed to encourage Fintech development for informal businesses create disincentives.

However, there are also forces pushing informal businesses towards Fintech adoption. The pressure to compete in a globalized marketplace necessitates embracing innovative technologies for better performance and market reach. Additionally, the need to enhance customer satisfaction by offering efficient and convenient services incentivizes businesses to adopt Fintech solutions. Socio-cultural factors also play a role. While cultural preferences for cash, religious beliefs, and social norms can initially hinder adoption, they can also be drivers for change. For example, cultural emphasis on saving might encourage adoption of secure digital alternatives to traditional cash storage methods.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The researcher concluded that from the thematic review and analysis done for this study, there are several factors that affects both positively and negatively the adoption of FinTech by the informal sector growth in Tanzania .These were categorized into different aspects like; management, technical, personal factors includes self-interests and attitude ,technological issues, legal, environmental, social-cultural and other economic factors. Therefore the factors have been thematically analyzed from the previous studies one as well as coming with the solutions and importance of addressing them to facilitate the effective adoption of the financial technologies for the growth of the Informal businesses in Tanzania.

The FinTech supportive tools like mobile phones from the studies have been analyzed as the major driver in Tanzanians Informal sector towards the implementation of the financial technologies due to their affordability and ease of use, significant challenges still hinder widespread use of these technologies. The searcher through the thematic analysis review study have drawn out the results and later being discussed and recommended as better solutions for the future better development of the Informal businesses. Ultimately, successful Fintech adoption hinges on addressing these influencing factors and creating an environment that promotes user-friendly and beneficial technologies, alongside supportive policies and infrastructure

Therefore, Fintech adoption in Tanzania's informal sector requires a multi-faceted approach. Addressing infrastructure limitations, increasing financial literacy, and establishing supportive regulations are crucial. Additionally, initiatives like microloans, subsidized devices, and targeted training programs can ease the financial burden for informal businesses. By creating an environment that fosters user-friendly and beneficial Fintech solutions, policymakers, financial institutions, and educators can all play a role in unlocking the potential of these technologies for Tanzania's informal sector, ultimately leading to greater financial inclusion and economic growth.

Recommendation

These are the suggestions drawn by the authors from the conclusion of the study as the solutions toward enhancing better performance and informal businesses development in Tanzania.

- 1. Promoting and enhancing better culturally** aspects awareness .The sector and other stake holders should insist and assure better cultural practices that enhance the FinTech adoption and abandon the unnecessary and poor cultural aspects that negatively affect the process. Through the Fintech design, and community engagement will help to empower the informal businesses and unlock the potential of Fintech for financial inclusion in Tanzania which could also favor the future country's economic development. s
- 2. Better and favorable Informal sector Regulations:** The government can simplify registration processes and clarify regulations related to Fintech use in the informal sector. This could involve reducing paperwork for license applications in business, lowering fees, and providing clear guidelines for data privacy and security. Furthermore having suitable regulations that will be fair and well interpreted to all groups of informal business such as; having weekly or monthly visits and orientations programs on these regulation, sending daily or weekly sms (subscriptions) on their phones as reminder, organizing several workshop and business summit that will bring them together led to have wide opportunity to listen, ask and understand. Also creating the better and fair regulation platforms that anyone can easily access and contribute that will later enhance informal business assets growth as well as general development.
- 3.** Beyond just technology itself, fostering a supportive ecosystem is crucial for Fintech adoption in the informal sector. **This involves government action on Fair and better regulations to the Informal sector**, including streamlining business registration and clarifying data privacy rules. Additionally, fair and consistent application of regulations is important. Therefore to bridge the knowledge gap, regular outreach programs, informative SMS alerts, and workshops can educate businesses. Finally, creating accessible online platforms for regulations and feedback mechanisms will empower informal businesses to understand and contribute to the regulatory landscape. These broader efforts, alongside user-friendly technology, pave the way for wider Fintech adoption and its potential to empower the informal sector development in Tanzania.
- 4. Developing Supportive Policies.** The Government should initiate better policies favoring the informal sector such as; incentivize financial institutions to create Fintech products and services specifically designed and suit for informal businesses better operations. This could involve tax breaks, subsidies, or grants for institutions developing inclusive financial products.
- 5. Promoting Financial Inclusion:** Initiatives promoting financial literacy and alternative credit scoring systems tailored to the informal sector can bridge the gap between informal businesses and formal financial institutions. This involve putting more efforts on trainings and business workshops that will help to transfer skills from one individual to another base on technological innovations as far as FinTech adoption is concerned for business success.
- 6. The stakeholder contribution and involvement.** This involves encouraging different financial institutions and other stake holders to actively participate and contributes to the informal sector businesses in Tanzania by offering funds, loan programs and other forms of financial aid and

empowerment to assure more adoption of the Fintech for their future growth.

- 7. Stakeholder Involvement:** Encourage financial institutions and other stakeholders to actively contribute to the informal sector through loan programs and other forms of financial support

By addressing these regulatory and policy hurdles, Tanzania can create a more enabling environment for Fintech adoption for assets growth and general development within the informal sector. This will allow informal businesses to leverage the financial tools and services that can empower them to grow and contribute more significantly to the national economy.

Disclosure

The authors confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. The authors confirm that they have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property.

Contributions and Innovation Implications of the article

This article highlights the critical role of user-friendly design and targeted awareness campaigns in driving Fintech adoption within the informal sector. By developing easy-to-use, usability of the financial technologies, alongside educational initiatives that emphasize their benefits, the way is paved for innovative Fintech applications specifically designed to assist informal businesses with online payments. Furthermore, the observed growth in the financial sector and increasing affordability of smartphones suggest a future where Fintech adoption is even more widespread, fostering a more inclusive financial landscape for informal businesses.

Also the paper offers the practical recommendations for the informal sector in Tanzania to overcome the identified barriers as well as enhancing and embracing the influential factors to enhance their FinTech adoption, ultimately helping them expand their market reach, improve operational efficiency and boost the competitiveness in the digital economy.

The study also insists on the necessity of having a strategic approach when formulating FinTech thus electronics commerce systems, meeting the needs for the Informal sector to have clear and precise vision of their goals, understand the business value and describe the necessary processes to achieve the success whole avoiding the common difficulties.

The research has insisted the need for the necessary interventions, including education initiatives cost reductions and change management programs, to enhance the taxpayer compliance and improve the tax administration efficiency and effectiveness by the Tanzania's Informal sector.

Declaration statement

We declare that this work is our original study and has not yet published anywhere else than here. All data analyzed during this research is available from the site cited and referenced by corresponding. The authors declare no competing interests. Funding for this research was not received from any specific grant or alternatively. First author conceived the study, designed the methodology, analyzed the data, and wrote the initial draft. Second collected the data and reviewed and edited the manuscript. Both authors provided valuable feedback and revisions. All authors have read and approved the final manuscript. We are grateful to all others who have contributed to their advice and insights.

Ethics approval and consent to participate

The authors' state that the information cited have been obtained from the published journals related to the study explored as the review. No part of the data or new information has been extracted without acknowledging the author and research done by other researchers. The documents extracted as the references

were all acknowledged and cited respectively and shown in the bibliography sections as the research was the review study.

Consent for publication

We authors hereby give our consent for the manuscript titled **The Factors affecting the Adoption of Financial Technologies (Fintech) by Tanzania's Informal Sector for their growth** to be published by Financial Innovation Journal. We confirm that we have the authority to grant this consent and all we have agreed to the terms of this consent.

The manuscript has been prepared in accordance with the guidelines provided by the publisher and includes all necessary disclosures and declarations of interest. I confirm that the research described in the manuscript was conducted in accordance with relevant ethical standards and that appropriate ethical approvals were obtained, if required.

We understand that the publisher may edit, adapt, and print the manuscript as necessary for publication and that the published version may differ from the version submitted. I also understand that the publisher has the right to distribute the published version electronically and in print, and that it may be archived in databases and repositories.

We hereby waive all rights to any royalties or other compensation arising from the publication of this manuscript. We retain the right to use the material in my own future publications or presentations, with appropriate acknowledgment of the original publication.

This consent is irrevocable and shall remain in effect even if my employment or association with Yanshan University as affiliated institutions ends or if I cease to be a co-author of the manuscript.

Availability of data and materials

The author extracted the data, specifically the themes from various secondary data, from their respective online links. This was done by applying keywords from search engines such as Google Scholar, Mendeley Search, and others, which facilitated access to relevant publications related to this study. They have all been cited and listed in the reference sections.

Competing interests

The authors have no competing interests to declare that are relevant to the content of this article. All have agreed to submit the article to this journal, and all have agreed to comply with all the rules and regulations imposed by the journal for this publication. "The author declare that they have no competing interests".

Authors' contributions

Both authors were involved in the whole work with tasks divisions. Example; title formulation and idea generation was done by the first author, structuring and organizing the work, methodology ,data collections, analysis as well as full typing and editing. The second author assisted drafting and revised the work, basically supervising and assisting the review "All author(s) read and approved the final manuscript".

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Summary of Accomplishment

The author completed this review article using the thematic method, focusing on the adoption of FinTech and its impact on their growth in Tanzania. The author has successfully reviewed several articles and subsequently analyzed the information as required. The collaboration with the second author has resulted in high-quality

work, free from competing interests, and the work is now ready for publication

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Summary of Accomplishment

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