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Determinants of Financial Inclusion with a Focus on Technology Religious Diversity and Financial Literacy

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Introduction

Inclusion in finance refers to the process of promoting available and affordable access to a wide variety of regulated financial products and services, widening their utilisation in the community by the implementation approaches that are innovative, which include awareness financially, education and both social and economic insertions [1]. The efforts internationally of measuring financial inclusion have by now only focused on side data supply. It is imperative to look at the demand portion of the financial inclusion. This helps to place the side data into perspective and look at all the sides that are related to the financial inclusion. Lawrence insisted that it is important to explore and put considerations when doing an analysis of the financial literacy, so as to be able to inform the work on financial inclusion [2]. This can only occur when the products are available and that the awareness of the products is offered. There are benefits of financial inclusion that include economic growth by mobilisation of savings into significant investments. It also assists in augmenting financial literacy of the very weak members of the society by financial advice, as well as reduction in dependence [3]. More so, it enhances and promotes innovation by use of technology, as well as help the poor in the society be able to alleviate their income and create assets that are productive. Its main aim is to give support to safest spread of quality modes and at the same time, financial deliveries that are at low costs and are able to be accessed by the poor. The paper will discuss the determinant of financial inclusion and put focus on technology and financial literacy. These two factors are equally imperative in the aim of improving and enabling the outreach of financial inclusion in the society and the community.

Background

Financial inclusion is perceived and identified as an imperative policy factor in both developing and developed countries. It refers to the process of promoting available and affordable access to a wide variety of regulated financial products and services, widening their utilisation in the community by the implementation approaches that are innovative, which include awareness financially, education and both social and economic insertions [4]. The efforts internationally of measuring financial inclusion have by now only focused on side data supply. It is imperative to look at the demand portion of the financial inclusion. This helps to place the side data into perspective and look at all the sides that are related to the financial inclusion. Joo insisted that it is important to explore and put considerations when doing an analysis of the financial literacy, so as to be able to inform the work on financial inclusion [5]. This can only occur when the products are available and that the awareness of the products is offered. There are benefits of financial inclusion that include economic growth by mobilisation of savings into significant investments. It also assists in augmenting financial literacy of the very weak members of the society by financial advice, as well as reduction in dependence More so, it enhances and promotes innovation by use of technology, as well as help the poor in the society be able to alleviate their income and create assets that are productive [1].

Its main aim is to give support to safest spread of quality modes and at the same time, financial deliveries that are at low costs and are able to be accessed by the poor. This paper will discuss the determinant of financial inclusion and put focus on technology and financial literacy.

Overview

The approach to conventional economy to saving and usage decisions postulates that a very well informed and rational individual can use less than his revenue or income in the periods of high pay but will save to support usage when there is a fall income. Scherpf suggested that the consumer will organise his savings pattern so at to smoothen marginal utility over his life cycles [6]. Many research studies have reflected and showed the manner at which the life cycle optimisation can be well sculptured by the preferences of the consumers who are interested. More so, the economic environments that include the risks of return investments and constraints of liquidity.

The theoretical models integrate major aspects of the behaviour of the consumers and the environment of the economy always assume that the individuals are entirely able to create and execute saving plans as well as the spending plans. All these need expertise in dealing with the markets of finance, the know-how of the purchasing power and the ability to handle the complex calculations of the economy in general [7]. This is by far very true

in the real world as very few people own the extensive knowledge of finance that is conducive and suitable to decision making and the execution of plan. However, this knowledge acquisition usually comes at an extra cost.

In the past, when the pensions of retirement were implemented and administrated by the government, the workers individually tended to commit very little attention to the details of the plans. In the today world, saving and investing for retirement are happening in an increasingly personalised environment of pension [7]. Researchers and the makers of policy have started pushing for more insights into the modelling and reality gaps. This is to ensure that they achieve and better evaluate where the enrichment of the theory can be achieved, as well as how the efforts of policy can be targeted.

More so, Pallant also consider a two period-model and further sketch a multi-period cycle of life with the financial literacy [8]. He suggested and foresaw that financial literacy and the richness will be robustly elated over the individuals' life cycle, through both of them rising and falling during retirement and after. In this theory, he also suggests that countries that have generous benefits of social security have few incentives to be able to save as well as sum up wealth, and thereafter, less justification to invest in financial literacy.

Financial Literacy

According to Grable, financial literacy is constituted of human capital that is normally utilised in financial activities with the aim to increase an individual's financial stability [5]. It is basic skills and know-how that any individual requires in order to survive and live effectively in the modern community.

Financial Literacy and Financial Education Relationship

Education refers to knowledge development, skills and abilities of a certain individual. It can be well studied in 3 major ways. Firstly, is through estimation of how it affects the scores of financial literacies in an individual, secondly, how it influences various long-term financial behaviours and lastly the estimation of how it affects these financial behaviours [9]. There are also four approaches to financial education: employed-based, credit counselling, school-based and community based.

Being financially literate and competent does not necessarily mean that focus is on understanding of the concepts, but it also involves the capability of managing finances that are personal [10]. Financial education is widely studied in schools so as to improve a particular student's knowledge of financial concepts and in turn, be able to improve the financial literacy. A survey was conducted by Roberts on students who took part in the finance curriculum and realised that, at least more than 70% that responded stated that their financial behaviour has improved since then [9]. This showed that the curriculum greatly increased the individuals' knowledge on financial concepts and there was exemplary change in their behaviour.

This survey showed that financial education greatly improves the financial behaviour as well as literacy. More so, it means that college finance courses also increase the individual's knowledge of investments which later increases the habit of saving. In this case, financial education gradually empowers people to make decisions concerning their finances in a more promising way [11]. It can be concluded that financial education affects the level and rate of financial literacy among individuals.

Financial Socialisation and Financial Literacy Relationship

People can obtain knowledge on financial concepts not only by education, but also due to socialisation with agents that may include friends, media, family and schools [2]. These agents are encountered all through the individuals' life cycle. There is a positive relationship that exists between financial literacy, saving, budgeting and social learning. Financial behaviours are enhanced when there is an up surge in the frequency of engagement in the opportunity with social learning [12]. Observation from other groups as well as the participation in the practice of finance enables one learns skills and knowledge by reception of instructions.

More so, in the very social surroundings students can interact with parents, peers and employers and this has an effect on the financial behaviour of an individual. Individuals learn how to well manage their finances from other people especially parents and employers, hence, the role played by socialisation is more important and significant than the role played by education in the aim of obtaining financial literacy [13]. This is because in socialisation there is direct teaching and enforcement, as well as role modelling and those who have the opportunity to observe are more likely and expected to be more informed on matters finance saving and budgeting.

Consequently, it is stated that relations communication of financial issues greatly declines with age but peer communication up surges with age. This means that parents influence on literacy in finance goes down with age while the influence of peers gradually increases as one grows. Interaction with the various agents allows one gain knowledge and abilities in money management [14]. More so, many individuals in the current years use media as a channel of knowledge acquisition in finance. Agents such as televisions, newspapers and social media usually advertise and deliver information that can greatly affect the financial literacy positively as well as improving it.

Pallant argues that the amount of time taken in media use has a great influence on the saving behaviour positively and emphasised that parents, peers and media are important agent of socialisation and have a great influence on attitude of the individuals financially [8]. It can, therefore, be concluded that agents of socialisation have effect on the literacy level of individuals financially, especially the young generation supporting the hypothesis that socialisation agents are positively related to financial literacy [13].

Money Attitude and Financial Literacy Relationship

Attitudes towards money and the significance of money have today become the research topics in this area of economics and finance. It is imperative to understand the money attitude due to the increasing money significance, since a person's attitude usually demarcates behaviour when it comes to matters of money [3]. A certain individual's money attitude potentially reflects the behaviour financially and this can be acquired through edification and knowledge. More so, attitudes also affect the feelings and the process of decision making of consumers, hence, it is important to understand money attitude, determinants of money attitude and the measure of it [15].

An individual's attitude towards finances can shape their literacy and having a positive attitude will eventually influence the behaviour so as to gain more information, while a negative attitude only leads to poor management and illiteracy in matters concerning finance [14]. This attitude depends on several factors such as childhood, social and financial status, education and experience.

In this case it means that the attitude normally varies from one person to the other, since it is related to values and self-direction [7]. The manner at which an individual values money and manages income activates their interest to obtain skills and abilities in management of their finances.

In addition, self-confidence and perception is also significant in the aim of obtaining literacy. A study by Tabiani claimed that individuals who have a high seeking skill have more problems when it comes to financial behaviour and those with very low and weak control of their budgeting abilities depend more on their feelings towards accounting instead of beliefs that are cognitive [7]. This shows that there is a positive effect that attitude has on the financial literacy of people and concludes that money attitude significantly influences the financial literacy level, supporting the hypothesis that states: money attitude positively relates to financial literacy.

Effect of Financial Literacy on Financial Inclusion

Research by Lyons et.al shows that financial literacy is related positively to financial inclusion and this particular association is important at a 1% level as he did a case study on Cambodia and Vietnam [6]. When there is an increase in the level of financial literacy, a rise in the financial inclusion score of 50 points in for example, a country like Cambodia is expected. More so, a high income is also related to high financial inclusion in Cambodia, a relationship that is considered 10% significant. In this study, they found that in terms of education, when the income and literacy are well controlled a high education or literacy level is still related significantly with high financial inclusions in Vietnam rather than in Cambodia [13]. This is because education in Vietnam has been seen to have statistically stronger effect on inclusion of finance.

In Cambodia, high inclusion is related to the middle aged who is self-employed and have salaries, while those that are jobless, and poor have quite lower financial inclusions. From this particular case study, it is evident that financial inclusion can be influenced by financial literacy positively.

Role and Influence of Technology on Financial Inclusion

The integration of technology and mobile telephones as well as other technology services is reliable solution to improved financial inclusions. It allows the banks to effectively improve their efficiency and deliver channels use to work in unison as a connected system. Technology providers have concluded that infrastructure building is significant for financial inclusion [13]. In that case, in India there are vital dissemination technologies for financial inclusion, and they include micro-mobile and biometric ATMs, handheld devices, IT enabled kiosks, smartcards and POS terminals and financial services by mobile telephony [16]. All these technologies enable financial inclusion in India.

The IT enabled kiosks are common delivery forms of financial inclusion. They are usually small, and IT fixed that provide the consumers with features of banking such as cash deposits, internet banks, teller inquiry and cheques [1]. Their location is in areas inclusion is most expected to result to increase in volume of transactions and the user number. The advantage of these kiosks is that they increase the banking outreach, assists in reduction of opportunity cost and time, makes sure that there is security of information, maintains account record and upsurges the transaction volume [17].

On the other hand, according to Kim, 9 million users of mobile phones register to mobile service in India, and this includes the use of network currencies for making deposits, fund or credit transfers and service payment [10]. There are two types, the mobile banking and mobile payment where mobile banking delivers technology aid for increasing exposure of financial inclusion while mobile payment allows the customers from remote areas conduct payments by use of mobile devices only.

ATMs have also been designed to enhance financial services in the rural areas so that those who are illiterate can be able to use the facilities. They generally include micro, mobile and biometric ATMs. The biometric ones eliminate the inquiry of pin numbers but uses thumb impression scanning for viable identification, hence, by use of thumb users can access their accounts [10]. The mobile ATMs delivers services on a van, which moves to places to assist users in opening accounts and inquiries while the micro-ones provide low cost ATMs that possess characteristics such as withdrawal of cash as well as inquiries. They can be well located in accessible locations in which the remote settlers visit frequently such as markets and towns.

More so, there are handheld devices which are biometric and provide thumb impressions, as well as detection of the retina for easy identification. It also provides audio recognition of the various receipt issues and transactions. The smartcards also help users store information such as photographs or fingerprints and by which the user can deposit or withdraw cash by simply swiping [18]. This generally saves information on transactions for purpose of uploading on the main servers. All these innovation technologies that are put in place can significantly play a positive role or have positive effect on the financial inclusion of different individuals, in both accessible and remote or rural areas of a country.

There are also emerging trends in the mechanism of financial inclusion. Recently, there was launch of the Unique Identity Number that is considered to be an imperative element of financial inclusion. It is anticipated to efficiently usher in change that is significant in the mode at which banks reach out to access the rural areas population. It will serve as a proof for many activities such as account opening and make it easy to connect transactions to the gates of payment, hence, deliver banking services to the rural people and the remote areas [19]. The efforts and strategies are already underway in India to effectively link this technology to the financial inclusion, so as to create a strong foundation of service delivery that is better and very efficient.

The key participants for this financial inclusion include the scheduled commercial banks, regional rural banks, self- help groups, post offices, urban cooperative banks and the primary agricultural credit societies. More significant players also include the insurance companies, non-bank financial providers, NGOs and the micro-finance companies. Association and integration of different types of financial services such as all named above will imperatively extend the financial inclusion scope that will require very minimal cost of intermediaries, as well as ensure that financial services are provided hastily [20].

From this study, it is evident that technology and innovation plays a significant role in the increase of financial inclusion to various individuals. It is important that the financial players implement the technologies required to ensure that the poor have access to these financial services too.

Technology and Financial Inclusion

Financial technology refers to the utilisation of software, as well as the digital media in the aim to deliver and provide financial services to the consumers in all the parts of the world. There are significant impacts of technology on financial inclusion and hold extensive potential (Ministry of Finance). The newer tools and technologies are developed, the older ones are challenged, and this ensures a speedy, accountable and efficient delivery of financial services.

With the help of technology, the access to financial products and services is made more achievable, more so to the consumers that are situated and located in the regions where the modern economy structures are unavailable. Technology can also make these products more affordable by lowering the costs incurred for associating with the financial institutions. This can also be assisted by the availability of mobile phones and cellular networks; hence, this world is not excluded from the financial systems and is in reach as anticipated [13]. Key dissemination technologies for financial inclusion and they include micro-mobile and biometric ATMs, handheld devices, IT enabled kiosks, smartcards and POS terminals and financial services by mobile telephony [14]. All these technologies enable financial inclusion in India.

Money transfers have been made simpler by allowing the consumers to be able to send money all over the world by use of their mobile phones, rather than traditionally visiting the MoneyGram or Western Union which is normally expensive and far. In addition, the introduction of cashless payments gives an opportunity for all the businesspeople who do not relish in the world of simplicity and security payment.

The merchants have been able to accept payments from mobile money through the help of Kopo Kopo and Clips [13]. This evidently shows and justifies that the use of technology in the financial system is beneficial to all individuals in the remote areas and exemplarily improves and promotes financial inclusion [7]. This supports the hypothesis that states that financial technology has a positive relationship with financial inclusion.

Financial Literacy and Financial Inclusion

Financial literacy refers to the integration of awareness, information, attitude, skills and abilities that are needed and significant in decision making concerning finance and in the achievement of financial well-being [1]. Financial literacy by the utilisation of technology is usually based on 3 principles: the effective use of mediums such as computers and internet to allow the individuals skills and knowledge on the financial instrument [21]. More so, people must be able to critically understand the content they get through means of digital media and apply them in their capacity. Financial literacy and inclusion go hand in hand and education in the financial services id mandatory and important in the practice of saving and adoption of the services in the financial sector.

The media is an extensive tool that can be used in the acquisition of knowledge in the matters of finance and saving. More so, the agents of socialisation such as family and the employers can assists in knowledge accumulation [2]. For example, an individual can practically experience and interact with their parents to learn on their saving and financial behaviours effectively. This will give an idea and first-hand information on the methods and systems of financial services [22]. There is a positive relationship that exists between financial literacy, saving, budgeting and social learning. Financial behaviours are enhanced when there is an up surge in the frequency of engagement in the opportunity with social learning.

Socialisation is the very best agent of financial literacy since it involves direct coaching and learning through enforcement, observation as well as correction when there are wrong insights from the learner [13]. In other ways, the use of agents such as televisions and newspapers has an impact on the level of literacy of the individuals. This because these agents usually practise advertising and promotion activities and this allows for the delivery and provision of knowledge in the matters of finance, hence, promoting financial literacy and in turn, improve the level of financial inclusion and its diversity [14].

This literature review has explained the objectives of the paper as well as the research questions. It has discussed the theoretical framework in the basis of the topic and effectively explained the effects that literacy and technology have on financial inclusion. This shows that there is a positive relationship between the dependent variable which is financial inclusion and the independent variable that include financial literacy and technology. Financial education is mandatory to achieve literacy, but in more effective ways socialisation builds up a more experiential approach to achievement of knowledge and skills on how to manage finances in the best way possible.

Importance of Financial Literacy

Financial literacy has major importance and relevance in the societies, individuals and the financial institutions such as banks.

Importance to Individuals

The decision level and the saving structure can have very significant influence on the income of the future of the individuals. Households routinely make decisions that necessarily affect their own exposure to the shocks of the future through saving too little and sub-optimally making investments, or rather by too much borrowing. The gains and the losses from the financial literacy are well viewed and documented by [2]. The decisions on debts and the management of these debts always reflect behaviour that is savvy. A study by Harding, looks at the households' decisions to refinance and this is expected to be very minimal when the rates if interest decline [1].

It was noticed that the less wealthy and less educated and know ledged households were the ones prone to making mistakes, while the most educated and the wealthy were related to making excellent decisions. More so, those with numeracy that is high or the highly financially literate are most likely to be seen participating in the financial markets and make investments in stock, hold saving and plan on retirements [6]. This shows that the literacy difference across the individuals can be a relevant variable behind the wealth difference across the same individuals.

It is estimated that about 40-45% of the inequality in retirement of wealth in the United States is well accounted for the financial literacy difference. Age also matters when there is a link between the wealth accumulation and financial literacy and this is well explained by [7]. He states that the financial performance and success exhibits a U-shaped pattern and performance climaxing in the middle age. This reflects that most financial mistakes are prone to be made by the young and old population, because the younger and older consumers pay high interests on loan as well as fees. The young borrowers have very low levels of experience but a high intelligence degree while the older ones have high crystallised intelligence levels but low fluid intelligence in regard to performance [7].

Importance to the Society

In addition, there are benefits of financial literacy to the society since the voters and he makers of policy usually have to decide on the public debt levels, borrowing amounts and the pension levels. These decisions can be distorted if based on inadequate knowledge of the concepts of finance [15]. Financial and economic literacy are, therefore, important in the political decisions such as the reforms on pension. It helps the citizens be able to clarify the systems and assess the rights acquired, hence, this promotes deep understanding of the importance of reforms in those states where the systems of pension are unsustainable and wherever the reforms have to be made [8].

The same issue was analysed by Fox, who focused on the borrowing decisions of the inter-generations [14]. He showed that in a generation debt is prudently accumulated and those borrowing too much burdening the successive individuals with very high debts. This study, however, does not analyse the role of financial literacy but shows that relevance of individual as well as the collective decision making for the public. Peters looked at the connection that is between fiscal rules and the deficit policy maker's expectations [13]. A survey was analysed of members of 16 German countries and revealed that credibility that is limited, as well as the irregularity in the anticipations on acquiescence that is between the insiders and outsiders.

More so, financial literacy was seen to impact the occupational decisions of people, which later affects operational modification and growth of production. This showed that financial literacy has an effect that is positive on the probability of being self-employed.

Importance on Central Banks and Financial Institutions

The central banks usually communicate their own policies and rules by concepts that include inflation and interest rates. The drivers and effects of financial literacy have over time become more important for the central banks, since they have been mandated to ensure there is high financial stability level [21]. This stability is connected to the financial decision making and the funding that ignore values that are important can place the stability of the whole system at high risk. Financial stability usually starts at the individual level that possesses informed decisions in terms of finance. The risks that arise from the markets are a big case.

Most people in the Europe countries own their homes from the biggest wealth component and most of the households usually borrow for home purchase financing. Once they buy the homes, they use this property as collateral to obtain funding; hence, debts on mortgage are the main financial liability of the household sector in these developed economies [22]. Policy measures that aim at protection against risks of financial stability usually arise from the mortgages and wired towards debt maintenance and losses due to financial distress. For this reason, low requirements can be defined in the case of debt levels that relate to the income of the household [21].

Communication of the benefits of these policy measures while being aware of the consequences is a major setback to the policy makers and such communication is advantageous from financial literacy in the society.

Models for Financial Inclusion

There are various business models that have been examined to ensure there is good implementation of financial inclusion and they include;

Business Correspondent-Based Model

In 2010, banks were allowed to engage intermediaries to deliver financial service and further increase the reach. These intermediaries that were known as business correspondents or facilitators were permitted to provide service, as the agents of the banks at any other places apart from the premises of the banks [7]. There were also types of individuals who were recommended to act as the intermediaries by RBI and they include NGOs, PCO operators, SHGs linked to the banks, owners of petrol pumps and retired teachers. The BCs are till now allowed to conduct transactions on behalf of the banks as agents [3]. They refer, pursue and offer proposals to clients as well as other services such as identifying borrowers, collecting and processing of loans verifications, creating awareness on savings and advising on money management.

More so, they nurture self-groups, monitor transactions and follow up on recovery. In India, financial inclusion concept has gained importance since 1990s and drawn much attention to the role of micro-credit, which is considered an alternative finance source.

Non-Business Correspondent-Based Model

This model makes use of technology and innovation to deliver financial services to the semi-urban areas, such as cell phones, broadband and ITeS services. Mobile banks have been promoted for service delivery too [6]. The key various technologies that are used in the non-business correspondent-based model are banks on wheels, integrated ITeS and mobile banking. More so, there are key market players and participants for financial include such as regional rural banks, self-help groups, post offices, PACS and scheduled commercial banks [2]. The self-help groups enable the banks interact with the poor and form small borrowing groups. The banks also make use of the post offices with the aim to extend their services in the unbanked areas and the urban cooperative banks to offer services not provided by commercial banks.

The regional rural banks ensure that there is adequate credit for sectors such as agriculture and other activities while the commercial banks being the largest have a role in financial inclusion of the urban poor, as well as other unbanked sections by deployment of innovation and technology [1, 4]. This shows that the two models are significant and relevant in the aim of improving and promoting financial inclusion in the society and country in general.

Critical Role of Financial Inclusion

Financial technology plays a key role in restructuring the financial operations industry with the level of haste of modernism that's simply mesmerising. Notably, financial inclusions with the aim of growing in new avenues, can aid in the accessibility and expansion of small-scale businesses in developing countries [23]. On a broader perception, financial inclusion refers availability of suitable financial services and products which fundamentally comprises of savings, insurance, credit and payments to all income groups. Correspondingly, customers should find financial inclusion affordable and sustainable for the providers. More so, provision should occur in a responsible manner. With the advancing technology, innovations play a primary role in ensuring that developing nations leapfrog into new tech era. Consequently, the shifting action by these nations has a significant role on the financial inclusion which manifests through changing the scenery of financial infrastructure. Identically, financial inclusion has numerous benefits that aid individuals in the following areas: increasing their cash flows, overcoming income shocks, invest in businesses and improve their living standards.

Comparatively, financial sector should do more despite experiencing numerous transformative innovations in digital technologies. For instance, spreading digital dividends over a broad network, enhancing digital technologies in ensuring proper performance of the World Bank Groups in poverty eradication and increases shared affluence. A lot of consideration should focus on the role played by digital connectivity to strengthen other factors relating to technology like responsible policies and accountability institutions for poverty elimination. The relating factors comprises of institutions, regulations and skills [24]. Financial inclusion manifests through the appropriate use of financial technologies to enhance efficiency. For instance, the World Bank Group has set incorporates technology in its endeavors to attain a Universal Financial Access for adults by the year 2020. Its central focus prevails through ensuring that all adults worldwide access an account for financial transaction which an ultimate goal of promoting other financial inclusion. Technology integrates analog components within digital development to support a relevant enabling structure for high financial accessibility and financial inclusion. Attaining digital networking for has a lot of importance, but to maximise digital dividends has to involve the internet and technological consideration. Identically, attaining a universal financial accessibility seems significant but optimising the reimbursement from the financial inclusion technology inclusion becomes important.

Financial inclusion utilises technology in the following ways: disaggregation of the value chains, opening of platforms and application programming interface (APIs), use of alternative information and customisation.

Disaggregation of the Value Chain

Disaggregation of the Value Chain refers to entrant of new players such as mobile network operators and non-banks improving their efforts to provide financial services and products in a direct manner to customers [25]. Besides, customers can also access credit scoring, alternative payment mechanism, and data analytics.

Opening of Platforms and Application Programming Interface (APIs)

Opening of platforms and application programming interface (APIs) refers to allowance of new applications beside existing products thereby optimising on the current product customer base. Moreover, APIs plays a key role in enhancing accessibility a wide range of products and services hence improving financial inclusion [26].

Use of Alternative Information

Digitally assembled data comprising of mobile transaction logs and e-commerce can harmonise traditional approaches of client identification and examination of credit risk. For the purpose of helping customers with insufficient forms of identification, utilisation of biometric data through iris and fingerprints scan plays an important role [27].

Customisation

Customisation performs a critical role in improving data compilation and analytics to obtain a more accurate customer segmentation and product design that fits human such as notices to consumers and transparent user interfaces

Financial Literacy

Financial literacy refers to the capability of applying knowledge and ideas to manage financial resources efficiently for a lifespan of financial existence [28]. More so, the terminology may refer to concepts that enable a person to establish well-versed and efficient decisions with their entire financial resources. Correspondingly, many state-run programs have grabbed the opportunity of raising interest in individual finance notably in Australia, Canada, Japan and United States [29]. Furthermore, Organisation for Economic Co-operation and Development (OECD) HAS initiated intergovernmental programs with the aim of giving ways to enhance financial education and literacy values through establishing familiar financial literacy ideology. Likewise, OECD went ahead to launch the international Gateway to enhance financial education programs and research globally. The program focuses on the on eradicating lack of ideas in financial field.

Various studies presented by OECD indicates that 6% 0f the Australians understood the idea of compound interest. Nevertheless, only 28% could solve the financial problem by applying the concept. Further study conducted by a British survey indicated that consumers had less interest in seeking financial knowledge. Most of them received financial information by chance either by collecting a pamphlet from the bank or through having a conversation by a bank employee. Comparatively, a Korean survey showed that high school students had poor scores in financial units by answering less than 60% of the questions accurately. These tests aimed at determining their levels of understanding how to select and make good use of credit card and make good saving for retirement purposes [30]. Likewise, the students were subjected to tests to establish their level of awareness of impending financial risks and the significance of insuring against those risks. Correspondingly, a survey carried out in the US established that four out of ten American employees were not saving for their retirements due to lack of fundamental knowledge in finance.

Accordingly, many initiated financial programs have played a major role in ensuring the reduction in the level of financial illiteracy [31]. Their effectiveness has prevailed through various positive indications concerning the increased interest in the numerous individuals who have adopted the culture of seeking more know-how in the financial applications. For instance, research in the U.S indicates increases in participation concerning financial programs through registering in retirement plans to enhance their savings [32]. Additionally, many employees have started engaging in financial education programs offered by their organizations through provision of brochures and seminars. Moreover, academic analysts have found compelling evidence of quantifiable success at enhancing participants ‘financial well-being.

More study by Asian Development Bank points out financial expansion in financial knowledge among the Mongolians. For instance, Mongolians act of launching the TV drama with the primary focus on the fiscal literacy for the less privileged financial household has raised the interest rates of loans and investment services. As a result, most of the Mongolian traces their main source of financial knowledge from the TV serial dramas [33]. These TVs act as efficient, drivers for information on the financial literacy. Additionally, a progressing number of financial literacy experts have raised questions regarding a political character of financial know-how. The idea shows that financial information has greatly influenced the change in financial risk such as pension, health care costs and tuition fees among individuals from corporation and governments. Furthermore, an increasing number of financial literacy experts indicate the provision of financial education that focuses more on supporting an individual in comprehending methodical injustice and segregation rather than concentrating

on financial disappointments as a personal predicament and the personality of financial jeopardy as political [34].

Faith Diversity

In the recent past, immigrants and marginal groups of individuals have gained measurable interests from several financial institutions. These immigrants have great indication of faith diversity which impacts financial inclusion [23]. They include African Americans, Latino, and the 1.5 generation. 1.5 generation refers to persons who entered the U.S from other regions before or during their early ages. The whole concept manifests through accessibility of financial services, financial service preference and delivery, and community outreach [35].

Accessibility of Financial Services

Numerous researches appreciate the significance of trans-creation when availing financial services to immigrants with faith diversity [31]. Trans-creation refers to a more extensive and approachable procedure than rendition which comprises of endeavoring to comprehend religion and cultural principles as well as appreciating the short comings of translation [36]. For instance, the Hmong society has its own words addressing the bank and the loan which depict different meanings. As a result, the trans-creation procedure would comprise of appreciating the restrictions of translation and then attempt to comprehend the importance of such terms lacking from the Hmong faith [37]. After making such establishments, the financial institutions create services or commodities to initiate a response that befits precisely the Hmong community regarding the financial inclusion [32].

Community Outreach

Studies indicate that African American had much expectation concerning financial investment in their communities. Nevertheless, studies indicated that only few individuals received that attention of financial advisors. Moreover, only a small number of African Americans had a belief that they had got the required financial support regarding those who received the financial attention [25]. Basing on the general inhabitants, African American organisations received fewer financial ideas from confined credit unions, financial conferences and faith-based organisations in the U.S.

Concisely, technology plays a key role in enhancing financial inclusion activities. This role prevails in introduction of technological avenues to address and tackle existing predicaments in financial. Additionally, financial literacy creates awareness hence enlightening individuals on how to make better financial decisions. Lastly, faith diversity as a financial inclusion determinant aids other communities wile sidelines other.

Theoretical Framework

There are various theories that support and explain the research question effectively but two of them will be explained in this research paper and they include the theory of change and the holistic approach of financial inclusion.

Financial Inclusion Theory of Change

This theory reflects the approach of Mercy Corps' who stated that there are more than two billion people excluded from financial services and rely on cash for transactions. She states that financial inclusion is a very essential component of reducing poverty and obtaining economic growth. This approach committedly adheres to the market development and builds the systems that constitute poor clients service, starting with the markets that she works, as well as understanding the reasons why financial market does not work effectively for those with low incomes [20]. According to Mercy Corps, there is striving for financial inclusion for the poor, those in areas of conflicts, natural disasters, economic and political crisis victims.

Mercy Corps' financial theory of change claims that within the financial systems, if the participant can get access, be able to utilise and afford a wide range of financial services, they will be able to manage their assets better and effectively cope with stresses, adapt to the environment and transform their living conditions [38]. This theory advocates for change in the access and availability of financial service to the low-income individuals.

A Holistic Approach

Financial inclusion can be well viewed as an extension of efforts to alleviate poverty. Tetlow reveals that the higher the number of people, the lower and slower the financial penetration and the states with very large populations proportions lacking access to services shows the level of poverty ratios [39]. Such countries include India, Bangladesh, China and Philippines who have lower than 30% of access to financial services and high poverty ratios. Financial inclusion assists the poor to contribute to and share the advantages of growth in the economy, by making use of opportunities, moving effect of wealth and decreasing inequalities.

It is reported by Taneja that in India, in the year 2012 about 35% of the adult population in rural settlements against 40% in the urban areas have no access to these financial services [40]. This nexus that is between paucity and exclusion in the rural area's campaigns for access and delivery of services to the poor.

Focusing on the financial intermediary's importance for the various agents of economy, Sucuahi explains that financial inclusions provide an opportunity for the low income and poor individuals to enhance and better their life quality [41]. For the service suppliers, it delivers low-cost savings, and the states can greatly benefit from financial inclusion as it assists in better fund channelling and reduce poverty, hence, all these make financial inclusion good for the economy.

Methodology

Introduction

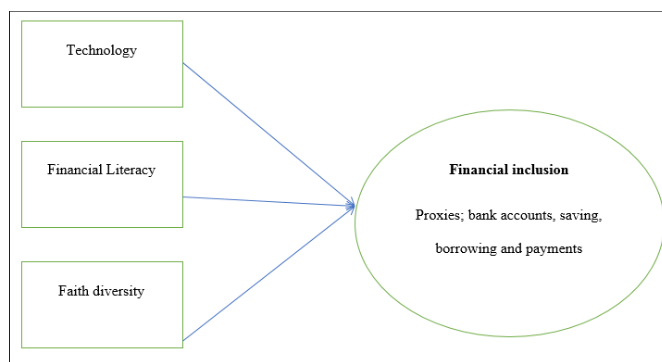
This chapter focuses on the data collection process in terms of how it can be used to answer the key research questions and test the stated hypotheses. The proposed data collection procedure in this section details the data source, the choice of the method, and the justification for choosing that particular method. According to the type of method selected in a given researcher is determine by the overall aim of that particular research, and as such, the choice of whether or not to use qualitative or quantitative methodology is determined by how effectively such a method can be used to answer the research questions [42].

The data that would be collected in this research would be mainly quantitative, since the researcher would seek to test hypotheses as one of the ways of answering the overarching question in this research, which is to investigate the determinants of financial inclusion. The variables that would be examined in this research include financial literacy, faith diversity and technology. The research proposes an examination on how these variables affect or influence financial inclusion.

Overview of the Methods

Financial literacy is one of the key objectives as far as financial literacy is concerned, and as such, it has become a policy objective in many countries [3]. The information on variables such as financial literacy, however, is still very scarce as points out [1, 4]. This is the fundamental reason why this research would focus on collaborating an array of studies in the past, as well as the use of panel data in the investigation of how variously financial inclusion can be achieved across organisations in different sectors. The time series data that would be used in this study would be on the key independent variables mentioned in this research, and this is summarised in the conceptual framework below.

Conceptual Framework



Data Source

The data collected in this research, as mentioned, would be quantitative. As such, quantitative data collection method would be used, where panel data or Time Series Cross-Sectional data (TSCS) would be collected on the variables shown on the conceptual framework. The study relies on secondary data collected from the World Bank (WB), the International Monetary Fund (IMF) and other international institutions. Thus, the study adopts a quantitative approach to address the research objective and questions.

Research Philosophy

The research philosophy applied in the current undertaking has contributed to the use of the quantitative technique. There are three main paradigms of research including the pragmatism, positivity, and interpretivism [43]. Pragmatism paradigm or philosophy involves the belief of the rejection of the distinction between realism and anti-realism such that the philosophy supports what actually works. The fact that pragmatism is ignorant of the truth and the reality of various researchers and that it focuses mostly on the executable results means that the philosophy or paradigm is rather not accurate in the acquisition and understanding of the truth behind the research question [44]. The pragmatism philosophy is rarely used and due to its ignorance and overlooking of the truth, it has not been considered for the current paper.

Positivism, on the other hand, is based on the belief that we can derive conclusions on what is actually observed and that conclusions are made from what we can see and measure. The current paper has applied the philosophy of positivism due to the fact that the paradigm centres on the facts of the research rather than any other aspects of it [45]. Therefore, with the enactment of the positivism paradigm, research is constructed in the form of observable information which for the reasons of eliminating biases is in the quantitative form in order to provide truthful and measurable results.

The Interpretivism approach or paradigm is one that has been proven not to be feasible in the current research. The main dynamics of the interpretivism approach is the fact that the approach is based on the behaviour, thinking and intentions of human beings such that the paradigm is biased such that the main technique that is applied with the adoption of the interpretivism paradigm is the qualitative approach [42]. Such a fact tends to upsurge and highlight the bias that is entailed in the interpretivism paradigm such that its adoption in the current undertaking would hinder the flexibility of the selected research technique or approach. Hindering the flexibility of the selected research techniques obstructs the flexibility of the entire research undertaking such that any obtained results will only be based on the qualitative approach and therefore be deemed as incompetent, unreliable and inefficient [46]. Due to the need for the yield of competent and flexible results and data, the paper has adopted the positivism paradigm with the reasoning that any obtained information from the current research will be trustable, valid and true. With the adoption of the positivism paradigm, the approach has made it flexible for the research to be conducted with the consideration of quantitative data and technique that is bent on highlighting testable and valid results and conclusions.

Quantitative and Qualitative Research and Justifications

The research conducted has proved to be carried out in a manner that showcases the integrity of data collected and the validity of information that is derived from the research. The conduction and use of quantitative data in the research are essential in producing such mentioned valid information that will lead to the realisation of more feasible and factual conclusions and therefore creating a better understanding of the topic and related issues [47]. The two main methods of research, the use of quantitative and qualitative research and data have proved fundamental in the successful conduction of research and furthermore in the production of effective results. The use of quantitative research and data in the current undertaking is down to the efficacy of the method in the current context as well as considering the merits that are associated with the implementation of the described technique and approach. The adoption of various philosophies or paradigm in the research paper has also been associated greatly with the methodology that has been applied in the current undertaking.

Quantitative and qualitative research tends to share some form of similarities but the differences between the two methods are the fundamental notion that determines the choice of either one of the methods [48]. With the use of the quantitative techniques and data, one is able to actually quantify the issue at hand by dealing with numerical values and data in which case, such data can easily be transformed into statistics or statistical data. The advantage of transforming information into statistics is portrayed by the fact that statistical data is easy to read and the fact that trends and possible predictions can be derived from such data. The decision to use quantitative research and data in the current undertaking can be related to the fact that the application of quantitative data produced more structured data and results. At the same time, the fact that the use of quantitative data yields data that is measurable has also been a major contributor to the selection of the techniques in the current paper.

Looking at the alternative research technique and data, which is the use of qualitative data in the current undertaking would only lead to the production of incomplete results that would have to be quantified in order to point out the specifics in the various conclusions [49]. Qualitative data is one that is used

in exploratory research such that one is able to acquire the understanding of information in the form of opinions, motivations and the contributing reason to certain beliefs or activities. The research technique, as well as the information that is applied in qualitative research, involves the acquisition of trends in thoughts and the results obtained after the use of qualitative research are those that need to be further processed in order to acquire the real sense and understanding of a specific point [50]. One would want to fathom that the use of qualitative data portrays a better understanding of individuals and opinions involved in the research while despite such a fact, the data is only suitable and effective in such a context. In the context of the need to realise precise results and understandings of the large population and the trends, the use and implementation of quantitative are seen suitable and efficient as applied in the current research [46].

Looking at the sample size of the research herein, the use of qualitative research would fail to yield a substantial understanding of the overall results of the research. Such is due to the fact that the use of qualitative data is most effective in the case that the sample used is small enough to be easily manipulated into the realisation of various understandings and conclusions [51]. In the current context, the selected sample size is large enough to qualify for the use of the quantitative research as well as dealing with quantitative data. With the sample used, the quantitative research was the only suitable method that would yield data that was not biased such that the opinions of the researcher would not influence the results and conclusions derived. The use of quantitative research means that any information derived, or conclusions made will be done in accordance with the trends and fluctuations of data from the research rather than from the opinions of the researcher [49]. Due to the differences in quantitative and qualitative research such that qualitative data demands for interpretation which could yield many opinions and manners of justifying these opinions, the use of quantitative research and data mitigates the chances of such differences in opinions and therefore proves to be effective in yielding more unbiased results and conclusions [46]. Therefore, the use of the quantitative research method in the current undertaking has meant the production of more trustable and accurate results and conclusions which are not of one's opinion but that which can be quantified to prove their accuracy.

One of the major shortcomings of the use of the qualitative data is the fact that the process of data collection, analysis and interpretation is quite long as compared to the application of the quantitative techniques and use of its data [46]. The analysis of qualitative data is difficult such that it requires some deeper understanding of the topic under research. The expertise of the researcher on the researched topic is more effective and required when dealing with qualitative data and the interpretation of qualitative data in most case would require further research in order to realise the meaning of some of the teams and wordings used [49].

Strengths of the use of quantitative data that have greatly contributed to its application in the current undertaking comprise of the fact that such data and research is used for validating already constructed theories through the comparison of data trends and quantities [46]. At the same time, the use of software such as the SPSS and Microsoft Excel software simplifies the need to analyse data and especially in the case of large quantities of data, therefore, simplifying the entire process [44]. Among the reasons for the use of quantitative data in the undertaking is due to the need to allow for the opportunity to be able to test the results and hypothesis by other researchers or other individuals or entities. Due to the existence of statistical analysis, such data can be statistically measured and tested to prove the validity of such data.

Variables

Dependent Variable: Financial Inclusion

Financial inclusion, in general, is ensuring that the financial services are available to as many people as possible, and this is also one of the most effective ways of ensuring that the financial services industry grows. For the purposes of analysis in this research, a number of factors would be taken into account as far as this variable is concerned. In this case, the proxies for financial inclusion would be bank accounts, saving, borrowing and payments, and this would be to facilitate effective analysis in terms of how the variables, or the independent variables affect this variable.

Independent Variable

Technology

Technology is one of the key aspects that can contribute towards financial inclusion. The integration of technology and mobile telephones as well as other technology services is reliable solution to improved financial inclusions, and this is especially in terms of facilitating effective awareness of people in the financial sector. It allows the banks or any other financial institutions and entities to effectively improve their efficiency and deliver channels use to work in unison as a connected system.

Technology as a variable in this research, have concluded that infrastructure building is significant for financial inclusion, and as such, different researchers and financial experts have emphasised on the need to incorporate technology to enhance financial literacy. In different countries, there has been emphasis on the need to incorporate technology in the financial sector, and this is especially in the developing and the emerging markets such as India, where there are vital dissemination technologies for financial inclusion and these technologies include micro-mobile and biometric ATMs, IT enabled kiosks, handheld devices, smartcards and POS terminals and financial services by mobile telephony.

Financial Literacy

An array of much research have also investigated financial literacy, and the role that it plays on facilitating shows that financial literacy is related positively to financial inclusion and this particular association is important at a 1% level as he did a case study on Cambodia and Vietnam. When there is an increase in the level of financial literacy, a rise in the financial inclusion score of 50 points in for example, a country like Cambodia is expected. More so, a high income is also related to high financial inclusion in Cambodia, a relationship that is considered 10% significant.

In this study, they found that in terms of education, when the income and literacy are well controlled a high education or literacy level is still related significantly with high financial inclusions in Vietnam rather than in Cambodia [13]. This is because education in Vietnam has been seen to have statistically stronger effect on inclusion of finance.

Faith Diversity

People can obtain knowledge on financial concepts not only by education, but also due to socialisation with agents that may include friends, media, family and schools [2]. These agents are encountered all through the individuals' life cycle. There is a positive relationship that exists between financial literacy, saving,

budgeting and social learning. Financial behaviours are enhanced when there is an up surge in the frequency of engagement in the opportunity with social learning [13]. Observation from other groups as well as the participation in the practice of finance enables one learns skills and knowledge by reception of instructions.

Model

The final section discusses data and variables.

$$Y=\alpha+X\beta+Z\lambda+H\gamma+\varepsilon$$

Y: the dependent variable of financial inclusion including the indicators of (bank accounts, saving, borrowing and payments)
X: the independent variable of scalar which include indicators of
X1: technology including sub indicators of no. of mobile subscription, no. of internet users, no. of land lines.
X2: faith, including Islamic bank, faith institutions, faith micro finance institutions.
X3: literature, including sub indicators of education, financial literacy and high education

Z: control variable related to economy including: GDP per capita, economic growth, employment, age and gender of people.

Data Analysis Plan

Generalised Method of Moments (GMM) methods for analysing

Conclusion

The review of literature has effectively pounded and exhausted on the theories that relate to financial literacy, technology and financial inclusion evidently. The importance and effect of financial literacy on an individual, society and financial institution has been discussed extensively as well as the players of financial inclusion in the delivery of services. The various models in financial inclusion such as the business and the non-business correspondent-based models are also significant in the study of financial inclusion.

In conclusion, this chapter has effectively discussed the determinants of financial inclusion putting focus on technology, financial literacy and faith diversity as a whole. It has discussed the various theories that are related to financial inclusion critically, the determinants and factors that have effect on financial inclusion such as money attitude, financial education and financial socialisation. It has also explained the role and influence the technology use has on financial inclusion, as well as stated the effects of financial literacy on financial inclusion. This research has used different methodologies in data collection such as interviews and case studies of countries, in the aim of effectively explaining and showing evidence of the effects that literacy and technology have on the improvement and deterioration of financial inclusion.

There are benefits that financial inclusion that include economic growth by mobilisation of savings into significant investments. It also assists in augmenting financial literacy of the very weak members of the society by financial advice as well as reduction in dependence [3]. Financial education is mandatory to achieve literacy, but in more effective way, socialisation builds up a more experiential approach to achievement of knowledge and skills on how to manage finances in the best way possible [9]. Technology is also an imperative factor that facilitates the access and outreach to the remote and rural settlers who require financial service. Technologies have been created and are still underway in ensuring that the illiterate and the poor have access to these services at any time and at their disposal [52-54].

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