

Cogent Economics & Finance

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/oaef20

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To cite this article: Haruna Musa, Nor Hayati Binti Ahmad & Alias Mat Nor (2024) Extending the Theory of Planned Behavior in financial inclusion participation model – evidence from an emerging economy, Cogent Economics & Finance, 12:1, 2306536, DOI: 10.1080/23322039.2024.2306536

To link to this article: https://doi.org/10.1080/23322039.2024.2306536

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Published online: 19 Feb 2024.

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COGENT ECONOMICS & FINANCE
2024, VOL. 12, NO. 1, 2306536
https://doi.org/10.1080/23322039.2024.2306536

DEVELOPMENT ECONOMICS | RESEARCH ARTICLE

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Extending the Theory of Planned Behavior in financial inclusion participation model – evidence from an emerging economy

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ABSTRACT

Recently, researchers have deployed the Theory of Planned Behavior (TPB) to examine factors influencing financial inclusion participation behaviour. However, more must be made to expand the theory by integrating sectoral and contextual variables. Hence, this study extends TPB by intergrating additional financial inclusion participation behavior determinants in Nigeria, an emerging economy. The study employed a quantitative research methodology with a positivist research design. The target population included 23 million adults aged 15 years and above in Northwest Nigeria. From this population, a sample of 500 adults was selected using a stratified simple random sampling technique. Data from the sample was collected through survey questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings revealed that all the original TPB variables, attitude, subjective norms, perceived behavioural control, and behavioural Intention, strongly influenced financial inclusion participation. It was also found that of the three new variables included, awareness and government support significantly influenced financial inclusion participation behaviour. In contrast, access to banking and digital channels was found to be insignificant. These findings imply that for better financial inclusion and participation, the government should play a proactive role in ensuring essential awareness about new banking products and services, especially those that align with the dominant religious beliefs of the Northwestern region, such as Shariah-compliant banking products and services. Additionally, policy support should be extended to enhance access to banking and digital channels for Nigeria's underserved communities.

IMPACT STATEMENT

This research paper enhances the Theory of Planned Behaviour (TPB) in the realm of financial inclusion by introducing new variables, including Awareness, Government support, and Access to banking and digital channels. The findings propose actionable steps for both Governments and Financial Services Providers. Specifically, in Northwest Nigeria, where literacy rates are low, it emphasizes the importance for the government to raise awareness of financial products, advocating for policies that promote knowledge and visual promotions in rural areas. Recommending a review of the National Financial Inclusion Strategy (NFIS) for 2019-2024 is essential for optimizing efforts to achieve the revised 95% financial inclusion target in Nigeria by 2026. Despite urban banking penetration growth, limited access to digital channels in rural areas impedes financial inclusion progress. The study suggests that financial institutions leverage insights to expand Islamic banking offerings, either by incorporating Islamic banking windows in conventional banks or establishing new Islamic banks to cater to Sharia-compliant financial service demand. Positive attitudes and perceived behavior control in the northwest region present opportunities for introducing Islamic financial products (IFPs) and garnering support for formal financial systems.

ARTICLE HISTORY
Received 26 September 2023
Revised 15 November 2023
Accepted 12 January 2024

KEYWORDS
Access to banking and digital channels; awareness; government support; financial inclusion participation behavior; theory of planned behavior

REVIEWING EDITOR
Aye Goodness, University of Agriculture, Benue, Nigeria

SUBJECTS
Banking; Statistics for Business; Finance & Economics; Development Economics

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1. Introduction

The global challenge of financial inclusion, intertwined with poverty, has persisted for the past two decades. Recent data indicates that nearly 31% of the adult population worldwide, aged 15 years and above, lacks accounts with financial institutions or access to mobile money services (The World Bank, 2017). Furthermore, 1.7 billion adults globally remain unbanked, with over 50% concentrated in seven developing economies, including Nigeria, where 56% are women (The World Bank, 2017).

Nigeria currently among the top seven countries with the lowest financial inclusion (The World Bank, 2017), has initiated positive reforms through its Central Bank and key development partners, introducing Islamic banking in 2011 to address financial exclusion (CBN, 2011). Despite these efforts, the "*Enhancing Financial Innovation and Access*" Survey (EFInA 2020) reveals that 36% of Nigerians remained excluded from the financial system. This failure to meet the NFIS 2020 target of achieving 80% financial inclusion is particularly pronounced in the Northwest and Northeast regions, predominantly Muslim, areas with exclusion rates of 68% and 50%, respectively in 2020 (EFInA 2020). This poses a significant concern, given that Muslims are predominantly in poverty, and financial exclusion denies them crucial benefits from the countrys financial system.

Considering the government support, Islamic beliefs, and cultural background of the people in these regions, Islamic banking is expected to resonate more, potentially increasing participation in the country's Islamic financial system. However this behavioural aspect remained unexamined in the context of the Theory of Planned Behaviour (TPB) in Nigeria's north-western Muslim-populated region. Recent studies, like Panchasara et al. (2019) and Maune et al. (2021), have applied TPB variables to financial inclusion participation. However, there's room for improvement by expanding TPB with additional variables such as awareness, government support, and access to banking and digital channels. These variables have been studied independently in relation to financial inclusion (Roy et al., 2017; Aggarwal & Klapper, 2013; Ardic et al., 2011) and integrating them with TPB variables aligns with Ajzen's (1991) suggestion to include any variable predicting human behaviour (Vallerand et al., 1992).

Initiatives by the Nigerian government, aiming to increase awareness about Islamic Financial Products (IFPs) and enhance access to banking services through branches and digital applications, are yet to be empirically verified for their influence on financial inclusion participation.

In the context described, the motivation for this study is multifaceted. Firstly, despite the documented correlation between financial inclusion and poverty, and the lower levels of financial inclusion in Nigeria's predominantly Muslim Northwest region, there is a noticeable absence of empirical evidence regarding the factors influencing financial inclusion participation behaviour in this region. This void justifies the selection of the Northwest region of Nigeria as the focal point for this study. Secondly, while the Theory of Planned Behaviour (TPB) has been employed globally to examine financial inclusion, more evidence is needed regarding its application to the study of financial inclusion in Nigeria. This insufficiency underscores the necessity for this study, which employs TPB as its foundational theory. Thirdly, given the comparatively lower levels of financial inclusion participation in Nigeria, there is a compelling need to enhance the TPB framework by incorporating contextually relevant variables such as awareness, government support, and access to banking and digital channels. This expansion aims to deepen our comprehension of the various determinants of financial inclusion participation behaviour in the country.

In line with the motivations above, this study makes three significant contributions. Firstly, it underscores the role of financial inclusion in alleviating poverty by providing access to financial services in marginalized communities and facilitating access to government support programs, particularly during crisis periods such as the COVID-19 pandemic. About this, World Bank research on Measuring Financial Inclusion linked the level of poverty in some countries to their level of financial exclusion, considering that financially excluded business people may not have sufficient access to finance in such a way to support their business operations (Abiola et al., 2015). It is worth noting that Nigeria still needs to achieve its financial inclusion target of 80% by 2020, contrary to the National Financial Inclusion Strategy (NFIS 2020). 36% of Nigerians remained financially excluded EFInA (2020). Thus, this could be part of the country's high poverty, as it was once rated as the world's poverty capital (Uzoho, 2021). Therefore, this study contributes to Nigeria's policymaking as it unveils the determinants of financial inclusion participation. Secondly, Nigeria stands among the top seven emerging economies with a notably high financial

exclusion rate alongside Bangladesh, China, India, Indonesia, Mexico and Pakistan. It is the sole representative from Africa within this group, which justifies its selection as the context of this study.

Consequently, our research aims to bridge the existing literature gap across Africa, Asia and North America by offering valuable empirical evidence for future cross-continental comparisons. Finally, applying the Theory of Planned Behaviour (TPB) and its extension within financial inclusion is still nascent. Only a few studies have taken the lead, like those by Panchasara et al. (2019) and Maune et al. (2021). Notably, there needs to be more empirical literature from the seven countries with the highest financial exclusion rates. Therefore, our study makes a significant contribution to this field by providing empirical evidence from one of the most compelling contexts in the realm of global financial inclusion literature.

Hence, the objectives of the study are twofold. Firstly, to confirm whether the influence of original TPB variables on financial inclusion participation still holds in Nigeria as an emerging economy, and secondly, to examine the extended TPB model by adding three new variables as determinants of financial inclusion participation in the country. The paper is structured into five sections, with the first section as the introduction and the second part as the review of relevant literature in which a conceptual framework is proposed with the relevant hypothesized relationships. The third is methodology, the fourth is the result and discussion, and the last part is the conclusion and implication of the findings.

2. Literature review

2.1. Financial inclusion participation behavior

Financial inclusion encompasses the accessibility to a range of financial services, including formal bank accounts, savings options, credit facilities, insurance, pensions, and mobile payment services (Allen et al., 2014; CBN, 2011; World Bank, 2014). In Nigeria, shortly after the culmination of the 'Maya Declaration' in 2011, the Central Bank of Nigeria (CBN) and its development partners launched the National Financial Inclusion Strategy (NFIS) in October 2012. The primary goal of this strategy was to reduce the financial exclusion rate in Nigeria, which stood at 53% in 2008, to a targeted rate of 20% by the year 2020. More specifically, the strategy aimed at enhancing access to payment services and savings, increasing them from 21.6% and 24.0% in 2008 to 70% and 60%, respectively. Additionally, it aimed to augment access to credit, insurance, and pensions from 2%, 1%, and 5% to 40%, respectively, by the year 2020 (CBN, 2011; Kama & Adigun, 2013; Sanusi, 2012).

Therefore, individual participation in these services can be considered a planned behaviour since an individual may decide not to participate even when made available (Maune et al., 2021). Thus, being financially included is an option, and an individual must exhibit behaviour in line with TPB (Ajzen, 1991). This idea is driven by sophisticated digital innovations surrounding financial inclusion. It is unlikely that an individual will participate in financial inclusion without previous Intention to participate in one or more financial services available. Therefore, financially included is considered a planned behaviour and action (Maune et al., 2021).

Studies revealed several reasons individuals may or may not participate in financial services. In particular, reasons that influence the willingness of individuals to participate in financial inclusion could be involuntary or voluntary, socio-economic, accessibility of financial services, and awareness or literacy concerning that service (Maune et al., 2021). Shneor and Munim (2019) argue that intentions and precursors must motivate action towards participation in financial inclusion. They argued that perceived behavioural control and subjective norms are precursors to individual behaviour, such as participation in financial inclusion. Therefore, adopting the TPB model helps predict both Intention and actual behaviour concerning financial inclusion (Maune et al., 2021).

The Theory of Reasoned Action TRA (Fischbein & Ajzen, 1975) and the Theory of Planned Behavior (Ajzen, 1991) are prominent behavioural theories. TRA postulates that a person's action is motivated by his attitude and perception of how other people expect him to behave (subjective norm). The stronger his Attitude and subjectivity, the greater his Intention to perform the action or the behaviour, although this does not always hold. Specifically, TPB underpinned the research framework since it is an extension of TRA. In TPB, a person's behaviour can be predicted not only by his Attitude, subjective norms and Intention but also by how much he believes he has control or ability and capability to perform the behaviour. This element called perceived behavioural control (PBC), is included to extend TRA to become TPB.

The research framework of this study depicts the original TPB variables – Attitude, behavioural Intention, subjective norms, and Perceived behavioral control, to explain human behaviour concerning financial inclusion (Maune et al., 2021). The theory has also been expanded in other studies relating to Islamic banking (Ibrahim et al., 2017; Ali et al., 2017; Amin & Hamid, 2018) and IFP adoption to include variables such as ethnicity, gender, perceived benefit and religiosity (Zauro, 2017).

The extension of TPB has also been made in the financial inclusion literature, though in very few previous studies. For instance, Panchasara et al. (2019) applied the original TPB variables as independent variables with financial inclusion as the dependent variable in India. However, Maune et al. (2021) extended TPB to study financial inclusion behaviour by integrating additional determinants such as subjective norm, self-efficacy, and information-sharing Intention. This extension implies that TPB can be applied to understanding financial inclusion behaviour. Therefore, consistent with this insight from Maune et al. (2021), as well as the openness of TPB as postulated by Ajzen (1991), the present study extended TPB by integrating three additional variables, namely awareness, government support and access to banking and digital channels in the research framework against the backdrop of Muslim residents in Northwest and Northeast regions of Nigeria.

Justification for extending the Theory of Planned Behavior (TPB) to include these three additional variables stems from two key factors. Firstly, their contextual relevance to the study area and their potential impact on financial inclusion participation behavior, as highlighted in the existing literature. For instance, within Northwest Nigeria, there exists a notable disparity in financial literacy, with only 30% compared to 70% in other regions (Statista, 2018). This discrepancy suggests that low levels of financial literacy could be a significant barrier to awareness of banking products and services, potentially contributing to high rates of financial exclusion in Northwest Nigeria. Consequently, awareness emerges as a crucial predictor of financial inclusion, with individuals possessing a higher level of awareness about banking services more likely to be financially included, in contrast to those with limited awareness. Furthermore, government support for financial inclusion is a global endeavor, with governments worldwide committing to this goal since the 2011 Maya Declaration (Zauro, 2017). Notably, the Nigerian government has displayed its dedication to financial inclusion, initially setting a target of achieving 80% financial inclusion by 2020 in the National Financial Inclusion Strategy (NFIS) of 2012 (CBN, 2011). More recently, this target has been revised to 95% by 2024, as outlined in a revised 5-year strategy by Emefiele in 2019. This underscores the direct correlation between the extent of government support and citizens' inclination to participate in financial inclusion. Finally, concerning access to banking and digital channels, the Nigerian government has implemented several initiatives through the NFIS (2020). These initiatives encompass expanding access to payment services, savings, credit, insurance, and pensions. They also involve increasing the presence of commercial banks and microfinance bank branches, Automated Teller Machines (ATMs), Point of Sale (POS) terminals, Mobile Banking, Internet Banking, and the introduction of Islamic Banking (Non-Interest Financial Institutions). The strategic expansion of access to banking and digital channels through these initiatives is expected to significantly enhance participation in financial inclusion, as it simplifies access to these vital services for the burgeoning population of Nigeria.

Hence, the extended TPB framework in the current study is presented in Figure 3.1. It illustrates the proposed relationships between financial inclusion participation behaviour and its seven determinants comprising Attitude, subjective norms, perceived behaviour control, behavioural Intention, awareness, government support and access to banking and digital channels in the presence of Gender, Religion, Location and Income level. Hypothesis development was included here, leading to the construction of a hypothesis statement for each determinant of financial inclusion participation.

2.2. Attitude towards IFP and financial inclusion participation behavior

Attitude has been defined as 'the individual's favorable or unfavorable evaluations of the behavior in question' (Ajzen, 1991: Page: 188). Within the framework of TRA/TPB, 'Attitude' is characterized as a positive (liking/good) or negative (disliking/bad) evaluation of an individual's beliefs regarding their behavior. TRA and TPB have consistently affirmed the pivotal role of Attitude in explaining human behavior (Fishbein & Ajzen, 1975; Ajzen & Madden, 1986). Several studies within other areas and fields examine the relationship between attitude and human behavior. These include; energy-efficient home appliances (Bhutto, et al., 2020), environmental and waste management (Ertz, et al., 2017, 2021; Robinot et al.,

2017), halal marketing (Bhutto, et al., 2023), Islamic microfinance (Mas'ud et al., 2020; Umar et al., 2022), Islamic insurance (Mas'ud, 2017) and renewable energy (Daiyabu et al., 2023).

However, literature revealed that only a few earlier studies adopted TPB as an underpinning theory to study the influence of Attitude on human behaviour relating to financial inclusion (Panchasara et al., 2019; Maune et al., 2021). Specifically, Cucinelli, Gandolfi, and Soana (2017) also confirmed that Attitude influences Italian retail customers' financial decisions by intending to apply for a medium/high-risk financial product. A study by Panchasara et al. (2019) confirmed that Attitude is a significant determinant of Intention toward financial inclusion in India.

Similarly, Maune et al. (2021) established that Attitude significantly influences financial inclusion participation behaviour in Zimbabwe. It is evident from the above studies that Attitude is a significant determinant of financial inclusion. We, therefore, propose the following hypothesis in line with this study:

Ha_1: There is a significant relationship between attitude and financial inclusion participation.

2.3. Subjective norms and financial inclusion participation behavior

Subjective norms are the normative pressure and social influence an individual faces within his family, friends, and community (Ajzen, 1991). The relationship between subjective norms and human behavior has been established in many study areas and fields such as energy-efficient home appliances (Bhutto, et al., 2020), environmental and waste management (Ertz, et al., 2017, 2021; Robinot, et al., 2017) and halal marketing (Bhutto, et al., 2023) and renewable energy (Daiyabu, et al., 2023). However, only few studies relate to financial inclusion behavior, such as the study of Cucinelli et al. (2017) which examined the influence of subjective norms on the financial decisions of Italian investors relating to their Intention to apply for medium/high-risk financial products. This study found that subjective norms significantly influence Italians' Intention to apply for a medium/high-risk financial product, which, by implication, signifies their financial inclusion through a credit facility. Specifically, Panchasara et al. (2019) found a significant positive relationship between subjective norms and Intention toward financial inclusion in India.

Mindra and Moya (2016) also found that subjective norms and social networks significantly influence financial inclusion in Uganda. From the above empirical evidence, it can be deduced that the relationship between subjective norms and human behaviour relating to financial inclusion has been established in the literature mainly through the support of TPB. Based on past findings, the following hypothesis is proposed:

Ha_2: Subjective norms and financial inclusion participation will have a significant relationship.

2.4. PBC and financial inclusion participation behavior

The degree of personal control an individual perceives over a particular behavior is called Perceived Behavioral Control (PBC) (Ajzen, 1991). In TPB, Ajzen (1991) postulates that PBC could, directly and indirectly, influence human behaviour. The implication of PBC in TPB is that individuals are more likely to pursue specific behaviours based on their level of confidence and the resources available (Husin & Rahman, 2016). Several studies have been conducted in the literature to support the initial postulation of TPB concerning the relationship between PBC and human behaviour, as proposed by Ajzen (1991). These studies include that of Bhutto, et al., (2020) in the field of energy within the area of energy-efficient home appliances and that of Daiyabu et al. (2023) in the area of renewable energy. There are also the studies of Ertz et al. (2017), Ertz et al. (2021) and Robinot et al. (2017) within the context of environmental and waste management as well as Bhutto et al. (2023) within the field of halal marketing.

Moreover, extant literature also documents the relationship between PBC and financial inclusion behavior. For instance, the study of Maune et al. (2021) found a significant positive relationship between PBC and financial inclusion participation behaviour in Zimbabwe. Similarly, Cucinelli et al. (2017) found a significant influence of PBC on the financial decisions of Italian investors relating to their Intention to apply for medium/high-risk financial products. On the other hand, Panchasara et al. (2019) found an insignificant relationship between PBC and Intention towards financial inclusion in India. Considering the past findings, it is expected that the PBC element will influence the people in the selected regions of

Nigeria in their participation in Islamic financial inclusion. Hence, the following hypothesis is developed to validate this potential relationship in Nigeria.

Ha_3: A significant relationship exists between PBC and financial inclusion participation.

2.5. Behavioural Intention and financial inclusion participation behavior

Intention to use refers to the strength of a person's willingness to perform a particular or specific action (Fishbein & Ajzen, 1975). Therefore, behavioral Intention concerning the adoption of banking services refers to an individual's degree of interest or willingness to engage in the use, purchase, or search of information about a product, such as a promotional offer or any other transaction related to the intent to use or adopt such products or services (Rezvani et al., 2012). Panchasara et al. (2019) concluded that TPB could be applied to understanding the behavioural dimensions of financial inclusion and the power of intentions concerning inclusion, which is shaped by one's desire for a positive attitude and the support for the action from associated social groups in which one lives. Some empirical literature that deployed TPB confirmed the influence of behavioural Intention on financial inclusion, specifically Maune et al. (2021). The researchers also concluded that previous research has largely ignored the influence of perceptive antecedents, including behavioural Intention, on financial inclusion. In line with this and within the context of Nigeria, the following hypothesis is developed and stated.

Ha_4: A significant relationship exists between behavioural Intention and financial inclusion participation.

2.6. Awareness and financial inclusion participation behavior

Awareness refers to understanding cultures, values, beliefs, and perceptions (Reinhardt et al., 2013). Awareness in this study refers to the knowledge of the Nigerians about IFPs and other banking services. Awareness could be a significant predictor of financial inclusion, particularly in Northwest Nigeria, as financial literacy is only 30% compared to 70% in other regions (Statista, 2022). This implies that a lack of awareness of financial services due to low literacy rates may affect the awareness of IFPs. This could be another contributing factor to the high financial exclusion in Northwest Nigeria. It was argued that a lack of awareness of IFPs could determine a high financial exclusion rate (Sain et al., 2018). In addition to practical evidence, empirical findings also confirmed the influence of awareness on financial inclusion. Roy, Singh, and Singh (2017) found that financial awareness is an essential predictor of financial inclusion among self-help group members in Tripura, India. Those with a high level of financial awareness are more likely to be financially included in the banking system and more willing to utilise various available banking and financial products and services (Roy et al., 2017).

Another piece of evidence from India revealed a significant association between financial awareness and financial inclusion services among bank consumers (Nair & Gupta, 2018). From the above empirical evidence, it can be deduced that the relationship between awareness and financial inclusion behaviour has been established in the literature (Roy et al., 2017; Singh et al., 2020; Nair & Gupta, 2018). In line with this background, the following hypothesis is proposed:

Ha_5: A significant relationship exists between awareness and financial inclusion participation.

2.7. Government support and financial inclusion participation behavior

Government support has been described as the various forms of direct financial and administrative assistance relating to subsidies, research centres, and universities to support finance and capital markets. The issue of government support for financial inclusion is a global phenomenon whereby governments worldwide have committed to it since the Maya Declaration of 2011 (Zauro, 2017). Specifically, the Nigerian government has been supportive of financial inclusion as reflected in NFIS 2012 with an initial target of 80% financial inclusion by 2020 (CBN, 2011), and recently, this target has been reviewed to 95% by 2024 through a revised 5-year strategy (Emefiele, 2019). Evidence within the empirical literature

revealed a strong effect of government support on financial inclusion (Aggarwal & Klapper, 2013; Sanderson et al., 2018; Staschen & Nelson, 2013). Government support must have played an important role in Nigeria since the statistics have shown that financial inclusion has reached 50%. However, due to a lack of empirical evidence, an investigation still needs to be conducted to test the influence of government support on financial inclusion in Nigeria. The following hypothesis is thus developed:

Ha_6: A significant relationship exists between government support and financial inclusion participation.

2.8. Access to banking and digital channels and financial inclusion participation

Ardic et al. (2011) consider access to formal banking services and digital payment channels essential to financial inclusion. This encompasses a spectrum of banking services, such as payment services (utilities, media, schools, associations, etc.), savings (both short-term and long-term), credit (including overdrafts, loans, and advances), insurance, and pensions. Additionally, this extension entails the proliferation of branches in commercial and microfinance banks and the introduction of Islamic Banking (Non-Interest et al.). The digital banking channels encompass Automated Teller Machines (ATMs), Point of Sale (POS) terminals, Mobile Banking, and Internet Banking channels. The findings from the literature revealed that access to banking services is linked to financial inclusion Ardic et al. (2011). Another piece of evidence revealed that access to digital financial services, mainly digital banking channels, is also linked to financial inclusion (Ozili, 2018). A similar finding was made by Osafo-Kwaako, Singer, White, and Zouaoui (2018), who found that access to mobile money, which is an integral part of digital banking outlets, had a significant influence on financial inclusion. Recently, it was found that a lack of access to formal banking services and digital finance channels, particularly in rural areas, hinders financial inclusion (Okoduwa & Odiboh, 2021). Nigeria has been committed to expanding both bank branches and digital payment channels through its financial inclusion strategy since 2012 to increase financial inclusion. Therefore, in line with empirical evidence from past studies and the development of digital systems in the Nigerian financial system, the following hypothesis is proposed to be tested.

Ha_7: A significant relationship exists between access to banking and digital channels and financial inclusion participation.

Therefore, the following expanded TPB conceptual framework is presented in line with the above hypotheses. The framework is presented in Figure 1.

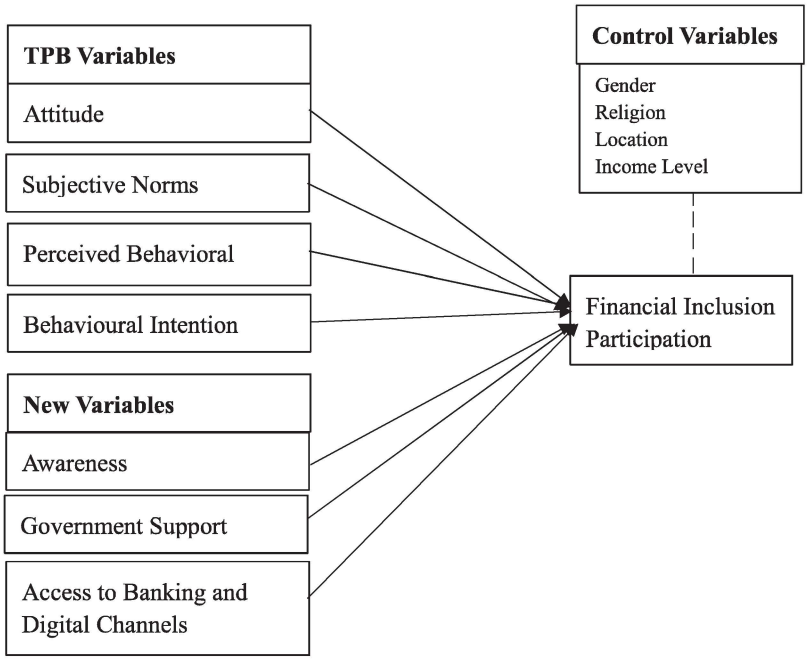


Figure 1. Research framework.

3. Methodology

3.1. Research design

The study is built on the positivism paradigm, meaning the research object will be independent of a researcher's consciousness (Al-Ababneh, 2020). Consistent with this paradigm, the research design employed a quantitative approach centred on verifiable observations in line with the theory or illusive reasoning rather than conceptual or theoretical development (Carlson et al., 2009). The quantitative methodology empowers researchers to analyse results rooted in numerical data objectively. This approach minimizes the influence of subjective opinions, in contrast to the qualitative approach, which is inherently more subjective. To achieve the quantitative philosophy, a survey was conducted and the outcome was converted into numbers through which empirical analysis was performed on the influence of attitudes, subjective norms, PBC, behavioural Intention, awareness, government support, and access to banking and digital and channels (independent variables) and financial inclusion (dependent variable). Previous researchers have used this approach in financial inclusion, such as Cucinelli et al. (2017), Mindra and Moya (2016), Maune et al. (2021), and Panchasara et al. (2019).

3.2. The population and sample of the study

The population of this study is considered to be the entire adult population aged between 15 years and above in the Northwest region of Nigeria, consistent with the subjects used by the World Bank (2017). Therefore, the study population is 23 million adults aged between 15 years and above, based on EFInA's (2020) report estimates. In line with this population, the sample size was determined using Krejcie and Morgan's (1970) sample selection procedure. Krejcie and Morgan (1970) suggested that for any population above 1,000,000, the approximate sample size should be 384. However, considering the low response rate in Nigeria Ajumobi et al., 2018; Raimi et al., 2013; Salisu, 2020), the sample size was increased by 30% (115.2), giving a total sample size of close to 500 adults. Previous researchers in Nigeria, like Salisu (2020) and Sarawa and Mas'ud (2020), have commonly addressed the issue of low response rates by increasing the sample size by 30%. This adjustment was deemed adequate to compensate for the low response rate.

3.3. Variables measurements

The study variables were measured using a five-Likert scale except for categorical control variables. The measurements were adopted from the prior studies; for instance, Attitude was measured using six items, subjective norm four items, adapted from Maune et al. (2021); perceived behavioural control four items, and behavioural Intention five items, all adapted from Maune et al. (2021). Awareness was measured using five items, and government support using four items adapted from Mas'ud, Shittu, and Umar (2020), while access to banking and digital channels was measured using five items adapted from Mindra and Moya (2016) and Ismael and Ali (2021). The measurement of financial inclusion participation was adopted from Ramasubbian and Duraiswamy (2012) and Zauro (2017). Lastly, the measurement of the control variables was based on categorical measurement. Gender was measured using a dummy with 0 and 1, 1 if the respondent is a male, 0 for religion, one for Muslim, 0 for location, 1 for urban, 0 for rural, and lastly, income 1 if above N5,000 and otherwise 0.

3.4. Analytical procedure

The analytical tool deployed was PLS-SEM path modelling. This was used to test the quality of the data and to test the hypotheses of the study. The utilization of PLS-SEM, as opposed to alternative analytical tools, can be justified due to the relative complexity of the model, particularly the inclusion of control variables. Additionally, the choice to employ PLS-SEM is supported by the nature of the study, which is not designed to test a theory but rather to utilize a theory to validate relationships between variables. This approach aligns with the underlying philosophy of PLS-SEM, as Hair et al. (2011) advocated.

It is important to note that the use of PLS-SEM requires the evaluation of measurement models and structural models. The measurement model is meant to assess the reliability and validity of the measures. In contrast, the structural model tests the study's hypotheses and other model fit indices (Hair et al., 2011). Specifically, PLS-SEM path modelling used five criteria in assessing the measurement model (Leite et al., 2010), including assessment of item reliability, internal consistency reliability, convergent validity, and discriminant validity. The structural model, on the other hand, is also used to assess five criteria (Hair, Ringle, and Sartedt, 2011), including the assessments of the significance of path coefficients, R-squared (R^2) effect size (f^2), predictive relevance (Q^2) as well as the significance of the mediating effects (Hair et al., 2011).

4. Results and discussions

As mentioned in methodology, the data collected for the study was measured using PLS-SEM which requires the evaluating measurement and structural models. The measurement model deals with evaluating the reliability and validity of the measures. In contrast the structural model is commonly utilized for hypothesis testing and evaluating model quality criteria. The results of these two models are discussed below.

4.1. PLS-SEM measurement model

In line with the suggestions of the proponents of the PLS-SEM, the measurement model is assessed through four criteria suggested by Hair et al. (2011) Hair et al. (2013, 2021) and Fornell & Larcker, (1981). The first criterion is the assessment of indicator reliability using a threshold of $\geq$.70; however, Hair et al. (2011) suggested that indicators whose loadings are $\geq$.40 can only be deleted if their deletion can lead to the enhancement of the Average Variance Extracted (AVE). The second criterion is the assessment of internal consistency reliability using composite reliability values of $\geq$.70. The third criterion is the assessment of convergent validity using AVE values of $\geq$.50. In contrast, the last criterion is the assessment of discriminant validity, which is assessed using any of the Heterotrait-Monotrait Ratio (HTMT), or cross-loading and Fornell and Larcker (1981). The result of the first three criteria is provided in Table 1 below.

4.1.1 Indicator reliability

The assessment of indicator reliability, which is the first step in evaluating the PLS-SEM measurement model, using indicator loading Hair et al. (2021). Essentially, this criterion involves the assessment of the extent to which a latent construct explains the Variance of its assigned indicator; in this, an indicator can be reliable when its latent construct highly explains its Variance (Hair et al., 2021).

All indicators in Table 1 have acceptable threshold reliability except A5, ABDC2, ABDC3, FI1, FI3, and FI5, which were deleted either due to lower loading or in order to meet the requirement of AVE for the respective constructs that fall below the required threshold of $\geq$.50 (Hair Jr et al., 2021). Specifically, for awareness, the item loading for A5 was 0.236, which falls below the recommended minimum threshold of 0.4 (Hair et al., 2011). For Access to Banking and Digital Channels, the AVE was 0.468; thus, two items, ABDC2 and ABDC3, were deleted. Hence, the AVE of the construct was improved to 0.54. Lastly, the AVE of Financial Inclusion Participation was 0.457; thus, deleting items FI1, FI3, and FI5 based on their lower loading changed the AVE to 0.52. Following these deletions, all the items met the requirements for the loadings suggested by Hair et al. (2011) and Hair et al. (2021).

4.1.2. Internal consistency reliability

In PLS-SEM, internal consistency reliability is considered the second step for measurement model evaluation. Internal consistency refers to the degree to which indicators work as a team in measuring a particular latent construct (Hair Jr. et al., 2021). The standard measure used among the researchers in assessing internal consistency reliability when PLS-SEM is deployed composite reliability was proposed by Jöreskog (1971). In contrast, the threshold ranged from 0.60 to 0.70 for exploratory and confirmatory studies (Hair Jr et al., 2021), with higher values depicting better internal consistency reliability. Thus, Table 1 reported the result of good composite reliability, which ranged from 0.78 to 0.89, with none of the constructs having composite reliability exceeding the problematic level of 0.95 (Hair et al., 2021).

4.1.3. Convergent validity

Convergent validity has been considered the third criterion in evaluating the PLS-SEM measurement model. It measures the degree to which the construct explains the Variance of its assigned indicators (Hair et al., 2021). Average Variance Extracted (AVE) is the most common measure used in PLS-SEM to evaluate convergent validity. AVE is commonly calculated by dividing the squared loadings by the number of its assigned indicators (Hair et al., 2021). According to Hair et al. (2022), the threshold for assessing AVE is 0.50 or higher, which means that such a construct explains 50% or more of the Variance of its assigned indicators. As depicted in Table 1, all the constructs achieved an acceptable level of convergent validity. The AVE of the constructs in the model ranged from 0.52 to 0.67, implying that the constructs explained 52% to 67% of the Variance of their assigned indicators, revealing the intense levels of convergent validity.

4.1.4. Discriminant validity

Discriminant validity has been considered the fourth criterion for assessing the PLS-SEM measurement model. Using the HTMT criterion, a discriminant validity problem is said to exist when the value of the HTMT is higher than the recommended threshold of 0.90 (Henseler et al., 2014). In line with this recommendation, constructs with HTMT values exceeding 0.90 could be conceptually similar in measurement, hence lacking discriminant validity. The result of the HTMT is presented in Table 2 below:

It is evident from Table 2 that most of the constructs achieved the requirement of construct validity as the HTMT scores do not exceed the recommended threshold of 0.90, as suggested by Henseler et al. (2014). This means that none of the constructs are conceptually similar or measuring the same thing within the research model of this study. Thus, there is no discriminant validity problem among the variables in the research model.

Table 1. Indicator reliability, composite reliability, and average variance extracted.

Constructs	Items	Loadings	Composite Reliability	AVE
Awareness	A1	0.90	0.86	0.62
	A2	0.83		
	A3	0.75		
	A4	0.63		
Access to Banking and Digital Channels	ABDC1	0.68	0.78	0.54
	ABDC4	0.64		
	ABDC5	0.86		
Attitude	ATT1	0.82	0.86	0.56
	ATT2	0.79		
	ATT3	0.62		
	ATT4	0.70		
	ATT5	0.77		
Behavioural Intention	BI1	0.81	0.87	0.58
	BI2	0.76		
	BI3	0.69		
	BI4	0.76		
	BI5	0.77		
Financial Inclusion Participation	FI10	0.86	0.89	0.52
	FI11	0.82		
	FI2	0.80		
	FI4	0.48		
	FI6	0.72		
	FI7	0.62		
	FI8	0.73		
	FI9	0.69		
Government Support	GS1	0.67	0.87	0.63
	GS2	0.80		
	GS3	0.92		
	GS4	0.77		
Perceived Behavioral Control	PBC1	0.84	0.88	0.66
	PBC2	0.78		
	PBC3	0.77		
	PBC4	0.86		
Subjective Norms	SN1	0.95	0.89	0.67
	SN2	0.78		
	SN3	0.86		
	SN4	0.67		

Table 2. Heterotrait-monotrait ratio (HTMT) - matrix.

Constructs	1	2	3	4	5	6	7	8
Awareness								
Access to Ban. and Digital Channels	0.56							
Attitude	0.72	0.57						
Behavioural Intention	0.50	0.93	0.54					
Financial Inclusion	0.80	0.84	0.83	0.78				
Government Support	0.52	0.28	0.51	0.29	0.61			
Perceived Behavioral Control	0.26	0.52	0.60	0.40	0.59	0.27		
Subjective Norms	0.60	0.82	0.71	0.86	0.76	0.31	0.32	

4.2. PLS-SEM structural model

The PLS-SEM structural model was used to test the study's hypotheses by assessing the significance of path coefficients and the model quality using the relevant metrics. Specifically, five criteria are used to evaluate the PLS-SEM structural model (Hair et al., 2011). These criteria include the evaluation of the significance of path coefficients for hypotheses testing. The second criterion involves the evaluation of R-squared (R2), with three threshold values of .25, .50, and .75, classified as indicating small, moderate, and substantial effects, respectively, as suggested by Hair et al. (2011) and Hair et al. (2022). R-squared measures the overall explanatory power of all independent variables on the endogenous dependent variables. The third criterion, effect size (f2), measures the specific influence of each independent variable on the dependent variables. It is assessed using the commonly used thresholds of 0.02, 0.13, and 0.35, categorizing effects as small, medium, and large, respectively, by Cohen (1988). The fourth criterion pertains to predictive relevance (Q2), which evaluates the extent to which the model can successfully predict its intended outcome even with missing data. Predictive relevance is assessed through construct cross-validated redundancy (Q2), and a model is considered to possess predictive relevance when its Q2 value exceeds zero.The last is evaluating the significance of the mediating effects (Wetzels et al., 2009).

4.2.1 Assessment of the significance of path-coefficients for hypotheses testing

The first criterion in assessing the PLS-SEM structural model is the assessment of the significance of the path coefficient. This was undertaken through bootstrapping processing using 5000 bootstrapped samples and the number of cases. The cases were the valid responses obtained from distributed questionnaires. The process was undertaken using 5000 bootstrapped samples and 288 cases in this case. The essence of this evaluation is to test the hypotheses of the study. The path coefficients are tested using their t-values and p-values. Specifically, for researchers using PLS-SEM, the standardised data commonly indicates changes in endogenous construct caused by changes in an exogenous or a predictor construct while holding exogenous constructs within the model constant. For instance, Hair et al. (2021) explained that a path coefficient of 0.505 depicts an increase by a unit standard deviation of a predictor construct, resulting in an increase in the values of an endogenous construct by 0.505 standard deviation units. The results are presented in Table 3.

Based on Table 3, the result confirmed that Attitude has a significant positive relationship with financial inclusion participation after controlling for gender, income, location, and religion ($\beta = 0.27$, $t = 7.4$,

Table 3. Evaluation of path coefficients for hypotheses testing.

Hypotheses	Relationship	Beta	SE	T statistics	P values	Decision
	Hypotheses for Direct Effects					
Ha_1	Attitude-> Financial Inclusion Participation	0.27	0.04	7.24	0.00	Supported
Ha_2	Subjective Norms -> Financial Inclusion Participation	0.08	0.05	1.63	0.05	Supported
Ha_3	Perceived Behavioral Control -> Financial Inclusion Participation	0.16	0.03	4.81	0.00	Supported
Ha_4	Behavioural Intention -> Financial Inclusion Participation	0.08	0.05	1.65	0.05	Supported
Ha_5	Awareness -> Financial Inclusion Participation	0.24	0.06	4.30	0.00	Supported
Ha_6	Government Support -> Financial Inclusion Participation	0.14	0.03	5.17	0.00	Supported
Ha_7	Access to Banking and Dig. Channel -> Financial Inclusion Participation	0.01	0.05	0.25	0.40	Not Supported
Control Variable						
Control	Gender -> Financial Inclusion Participation	−0.32	0.09	3.64	0.00	Significant
Control	Religion -> Financial Inclusion Participation	−0.02	0.02	1.19	0.12	Insignificant
Control	Location -> Financial Inclusion Participation	−0.19	0.06	3.00	0.00	Significant
Control	Income Level -> Financial Inclusion Participation	−0.09	0.05	1.94	0.03	Significant

$p = 0.00$). Thus, Ha_1 is supported. In simple terms, individuals with better attitudes toward financial inclusion are more likely to have better participation behaviour. Put differently, a percentage change in Attitude will result in a 27% increase in financial inclusion participation behavior. This result is consistent with earlier findings as in Fishbein and Ajzen (1975) and Ajzen and Madden (1986) and in recent studies, such as Panchasara et al. (2019) and Maune et al. (2021) that examined the influence of Attitude on behaviour. Hypothesis Ha_2 proposed that there is a significant relationship between subjective norm and financial inclusion participation. The result from this study supports this postulation; it revealed that subjective norm has a significant positive relationship with financial inclusion participation after controlling for gender, income, location, and religion ($\beta = 0.08$, $t = 1.63$, $p = 0.05$). This finding suggests that those respondents in the study whose family, friends, and community and business associates support financial inclusion will be more likely to have better participation behaviour. Put differently, a percentage change in subjective norms will result in an 8% increase in financial inclusion participation behavior. This finding is consistent with that of Mindra and Moya (2016), Panchasara et al. (2019), and Maune et al. (2021).

Hypothesis Ha_3 proposed that perceived behavioural control is significantly related to financial inclusion participation. The finding shows that perceived behavioural control is significantly related to financial inclusion participation in northwest Nigeria after controlling for gender, income, location, and religion ($\beta = 0.16$, $t = 4.18$, $p = 0.00$). Thus, Ha_3 is supported. This finding implied that individuals with self-control are likelier to have better financial inclusion participation behaviour than those without self-control over certain behaviours. Put differently, a percentage change in perceived behavioral control will result in a 16% increase in financial inclusion participation behavior. This result agrees with the findings from other studies, such as that of Cucinelli et al. (2017) and Maune et al. (2021). Hypothesis Ha4 projected a significant relationship between behavioural intention and financial inclusion participation in northwest Nigeria. Consistent with this postulation, the result of this study confirmed that behavioural Intention has a significant relationship with financial inclusion participation in Nigeria after controlling for gender, income, location, and religion ($\beta = 0.08$, $t = 1.65$, $p = 0.05$). This finding implied that individuals with greater Intention towards financial inclusion would be more likely to be financially included by participating in and using different financial products and services. The result showed that a percentage increase in behavioral intention would result in an 8% increase in financial inclusion participation behavior. This finding is consistent with Ajzen and Madden (1986), Fishbein and Ajzen (1975), and Maune et al. (2021).

Hypothesis Ha_5 proposed that there is a significant relationship between awareness and financial inclusion participation in northwest Nigeria. Consistent with the projection of this hypothesis, it revealed that, after controlling for gender, income, location, and religion, awareness was found to have a significant relationship with financial inclusion participation ($\beta = 0.24$, $t = 4.30$, $p = 0.00$). This implied that a percentage increase in awareness about banking and financial products would result in a 24% increase in financial inclusion participation behavior. This result is consistent with that of Roy, Singh, and Singh (2017), Nair and Gupta (2018), and Singh, Roy, and Pandiya (2020), who found awareness to be significantly related to financial inclusion participation in India. Hypothesis Ha_6 was also supported since the result revealed that government support has a significant relationship with financial inclusion participation in northwest Nigeria after controlling for gender, income, location, and religion ($\beta = 0.14$, $t = 5.17$, $p = 0.00$). The result revealed that a percentage increase in government support would result in a 14% increase in financial inclusion participation behavior. This result is unsurprising despite a large proportion of the sample being individuals from rural areas. The fact is that several government support programs, including individuals from rural areas, such as the Conditional Cash Transfer and Anchor Barrower Program, have been successful in getting the communities included in the financial system. Thus, this finding is consistent with Aggarwal and Klapper (2013) and Sanderson, Mutandwa, and Le Roux (2018), who found that government support has a significant relationship with financial inclusion.

Hypothesis Ha_7 proposed that there is a significant relationship between access to banking and digital channels and financial inclusion participation. However, the findings from this study did not support this hypothesis. It revealed that, after controlling for gender, income, location, and religion, access to banking and digital channels was found to have an insignificant relationship with financial inclusion participation ($\beta = 0.01$, $t = .25$, $p = 0.40$). It implied that a percentage change in access to banking and

digital channels only results in about a 1% increase in financial inclusion participation behavior, which is highly insignificant. This finding could be justified by the fact that the critical proportion of the respondents, consisting of about 44.8%, reside in rural areas with no ATMs, and individuals have no smartphones or computers to access other online channels due to their income levels and rate of development. The finding is consistent with Okoduwa and Odiboh (2021), who found that lack of access to formal banking services and digital finance channels, particularly in rural areas, hinders financial inclusion participation.

4.2.2. Assessment of coefficient of Determination (R-squared)

Assessment of the coefficient of determination (R-squared) is the second criterion in evaluating the PLS-SEM structural model. R-squared explains the Variance in an endogenous variable explained by one or more exogenous variables in a research model (Cohen, 1988). Consistent with this definition, Hair et al. (2011) and Hair et al. (2021) suggested three thresholds for evaluating R-squared where values of .25, .50, and .75 are classified as minor, moderate, and substantial, respectively. The result of the coefficient of determination for the endogenous construct of Financial Inclusion Participation is provided in Table 4.

Table 4 presents the findings, showing that all independent variables, including attitudes, subjective norms, perceived behavioral control, behavioral intention, awareness, government support, access to banking, and digital channels collectively account for 86% of the variation in financial inclusion participation behavior. The remaining 14% may be attributed to constructs not considered in the current research model. Consequently, in alignment with Hair et al.'s (2022) classification of R-squared, the R-squared value for the extended TPB model, incorporating these three new variables (awareness, government support, and access to banking and digital channels), can be deemed substantial in explaining the Variance in financial inclusion participation behavior within the northwest region of Nigeria.

4.2.3 Assessment of effect size (F-squared)

The assessment of the effect size (f-squared) is the third criterion in evaluating the PLS-SEM structural model. This criterion individually assesses the effect size of independent and dependent variables, individually the dependent variable. This assessment uses the suggested cutoff values of .02, .13, and .35, classified as small, medium, and large effects, respectively (Cohen, 1988). The results of the effects of exogenous variables on the two endogenous variables are provided in Table 5 below:

Table 5 presents the effect size of each independent variable on financial inclusion participation behavior is presented. Specifically, following Cohen's (1988) recommended threshold, Attitude exhibits the most pronounced effect on financial inclusion participation behavior in Nigeria compared to all the tested variables. However, according to the f-squared statistics, Attitude's effect is classified as medium-sized. Perceived behavioral control and awareness also share a medium-sized effect on financial inclusion participation behavior. In contrast, subjective norms, behavioral intention, and government support show minimal effects on financial inclusion participation behavior. On the other hand, access to banking and digital channels is associated with negligible effects on financial inclusion participation, as per Cohen's (1988) classification.

Table 4. Coefficient of determination (R-squared).

Endogenous Constructs	R-square	R-square adjusted
Financial Inclusion Participation	0.87	0.86

Table 5. Effect size (f^2).

	Financial Inclusion Participation	
Constructs	f^2	Effect Size
Attitude	0.20	Medium
Subjective Norms	0.01	Very Small
Perceived Behavioral Control	0.12	Medium
Behavioural Intention	0.01	Very Small
Awareness	0.15	Medium
Government Support	0.11	Small
Access to Ban. and Digital Channels	0.00	None

Table 6. Predictive relevance (Q^2).

Endogenous Construct	Q^2predict	RMSE
Financial Inclusion Participation	0.82	0.43

4.2.4. Assessment of predictive relevance (Q^2)

The fourth criterion for evaluating the PLS-SEM structural model is the evaluation of the predictive relevance of the model, which is commonly conducted using the recommendation of Gaisser (1974) and Stone (1974). Specifically, Gaisser (1974) and Stone (1974) suggest the use of construct-cross-validated redundancy (Q^2). The duo researchers recommended that any model whose (Q^2) is above zero is considered to have predictive relevance (Hair et al., 2022). The result for this criterion is provided in Table 6 below.

The result from Table 6 revealed that the Q^2 for financial inclusion is above zero, which revealed that the model has predictive relevance. The study's model can predict what it was designed to predict, even with missing cases in the dataset. For the RMSE, the values of 0.43 suggest a moderate fit for the model. This means that the model of the study can predict the data accurately.

5. Conclusion and Implications

The paper expanded the TPB by examining the relationship between Attitude, subjective norm, perceived behavioural control, behavioural Intention, awareness, government support, access to banking and digital channels, and financial inclusion participation behaviour in Northwestern Nigeria. The findings from the study revealed that Attitude, subjective norm, perceived behavioural control, behavioural Intention, awareness, and government support significantly influence the financial inclusion participation behaviour of the people in Northwestern Nigeria. However, such a relationship concerning access to banking and digital channels has to be strengthened to realise their importance to greater financial inclusion in the country.

5.1. Theoretical implication

The study has implications for the TPB. Firstly, it expands TPB within financial inclusion participation by integrating three additional variables: awareness, government support, and access to banking and digital channels. Although recent studies attempted to expand TPB within financial inclusion participation, they focused on different variables, not those considered in this study. For example, Maune et al. (2021) extended TPB in financial inclusion participation behaviour by integrating additional variables, including self-efficacy and information-sharing Intention. Thus, the expanding TPB contributes to the theory as its proponents, especially Ajzen (1991), called for integrating any additional theory that can lead to a better understanding of human behaviour. Adjusted R-squared of 0.82 showed that the extended TPB model in this study has a strong predictive power towards financial inclusion in the presence of an Islamic banking system. At the same time, an RMSE of 0.43 reflects a moderate model fit.

5.2. Practical Implications

The study has practical implications from the government's perspective for policymaking and financial institutions for market expansion and improved service delivery. From the government's perspective, there is a need to have a higher awareness of financial products and services offered by financial institutions, particularly in rural areas, creating a high level of financial inclusion within Northwest Nigeria, given the region's low literacy level. Hence, relevant policies regarding knowledge and information and visual promotions, among others, are needed to create better awareness of the available financial products and services and their benefits, especially in rural areas. In addition, it is advisable to conduct a thorough review of the National Financial Inclusion Strategy (NFIS) for the period 2019-2024. This review should aim to identify more effective strategies for achieving the ambitious 95% financial inclusion target. It is important to note that despite the growth in banking penetration, primarily through

Automated Teller Machines (ATMs) and Point of Sale (POS) terminals, these advancements are predominantly concentrated in urban areas. This underscores the need for broader accessibility to new digital banking channels, such as mobile banking, Internet banking, and mobile money, especially in underserved communities and rural regions. This will undoubtedly increase adoption of financial products and services, thereby boosting financial inclusion participation. Given that more than 40% of the respondents of this study are from rural areas, where access to banking and digital channels is low. Thus, depicting an insignificant influence on financial inclusion. Therefore, greater accessibility to banking products and services will result in greater financial inclusion participation.

From the perspective of financial institutions, they can leverage the insights derived from this study to expand their Islamic banking offerings. This can be achieved by establishing Islamic banking windows within conventional banks or by creating entirely new Islamic banks to cater to the growing demand for Sharia-compliant financial services. The findings from this study provide strong evidence of positive attitudes, perceived behaviour control, and subjective norms of the people within the northwest region toward financial inclusion participation. Hence, financial institutions should capitalise on these attributes to introduce IFPs and structure the terms to attract more people to support formal financial systems. Banking institutions can leverage the provisions of NFIS (2019-2024) to develop collaborations with relevant government agencies in executing IFP programs, which would eventually boost financial inclusion participation in Nigeria.

5.3. Limitation and future research direction

Despite its practical and theoretical significance, the study is associated with some limitations that open doors for future research. Firstly, the study covered only Northwest Nigeria based on its lowest financial inclusion rate. Following the Northwest, the Northeast is the second region with the lowest financial inclusion rate and is second in Muslim-dominated populations. Therefore, future research should replicate this study in the region to provide new evidence. In addition, future researchers can also consider covering the whole country for more comprehensive findings. Secondly, the current study concentrates only on direct relationship;s although additions have been made to the original TPB variables, future researchers should consider exploring mediating and moderating relationships within the model validated by this study for additional evidence. Lastly, regarding methodological constraints, the data utilized in this study was cross-sectional and collected at a single point in time. Consequently, future research endeavors incorporate longitudinal data to explore whether these variables can increase financial inclusion participation over time.

Acknowledgements

The researchers wish to acknowledge the support of the Central Bank of Nigeria (CBN) Financial Inclusion Secretariat and Enhancing Financial Innovation and Access (EFInA), Lagos, Nigeria, for providing the necessary statistics on Financial Inclusion in Nigeria. We would also like to thank the research assistants for their efforts and perseverance throughout the data collection process.

Declaration of interest statement

There is no potential or existing conflict of interest in this study.

Declaration of funding

No funding was received for the research.

Author contribution statement

1. **Haruna Musa** conceived the idea of the research and designed the initial research framework.
2. **Haruna Musa and Alias Mat Nor** conducted the analysis and interpretation of the data.
3. **Haruna Musa and Alias Mat Nor** made the initial draft of the paper.

4. **Prof. Nor Hayati Binti, Ahmad** critically revised the intellectual content of the paper.
5. **Prof. Nor Hayati Binti Ahmad** gave the final approval of the version to be published.
6. All authors agree to be accountable for all aspects of the work.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The study used data obtained from a survey which can be provided on request.

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