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FINTECH AND FINANCIAL INCLUSION: SOCIO-CULTURAL DIMENSIONS OF DIGITAL FINANCE TRANSFORMATION

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ABSTRACT

This paper explores the concept of Financial Technology (FinTech) in facilitating financial inclusion with specific attention to socio-cultural aspects of digital finance adoption and structural factors of digital finance adoption. The study has a quantitative and descriptive design with primary data taken on 200 respondents based on a structured questionnaire with a five-point Likert scale. The researcher uses statistical tools such as descriptive analysis, reliability, correlation, as well as multiple regressions to illustrate the interactions between FinTech usage, perceived benefits, socio-cultural factors, and financial inclusion. The results suggest that improvement of accessibility and severity of costs are the most influential dimensions of financial inclusion, which indicate the significance of accessibility and affordability in digital financial systems. Although the use of FinTech has a role in inclusion, it is a moderately high influence that implies that usage does not necessarily lead to inclusive results. Curiously, socio-cultural factors are not strongly directly affected, implying that their impact can be indirect or conditional. Also, the findings suggest that financial inclusion is at the middle range, which can be defined as the transition phase of digital financial adoption. The paper finds that the element of financial inclusion is a multidimensional variable and it needs to be tackled through the use of a multidimensional strategy that is based on technological innovation, enabling policy and enhanced access mechanisms. The results can give insight to policy makers and practitioners interested in improving financial inclusion by digitising it.

KEYWORDS: FinTech, Financial Inclusion, Digital Finance, Socio-Cultural Factors, Financial Technology Adoption, Access Improvement, Cost Reduction, Digital Transformation

1. INTRODUCTION

Financial inclusion has become a very important aspect of sustainable economic development especially within the framework of digital transformation and technological innovation. It is the process of making financial services affordable, timely, and appropriate available to all members of the society, particularly underserved and marginalised groups (Arner et al; 2018). Even though there is a lot of growth in the financial systems around the world, a large number of the population is not covered by formal financial services. This has led policymakers and researchers and practitioners to seek new ways to fill the financial institutions and unbanked gap (Beck et al., 2015; Demirguc-Kunt et al., 2018).Financial Technology (FinTech) has become a revolution in the past few years in changing the future of finance. FinTech is a combination of technology and financial services designed to make them efficient, more accessible, and easier to use. The development of FinTech has been tightly connected with the post-global financial crisis era, where the opportunities to innovate in the financial services due to technological innovations and regulatory reforms were offered (Arner et al., 2015). Among those innovations, one can single out mobile banking, digital payments, peer-to-peer lending, and blockchain-based solutions, as each of them has dramatically transformed the way the financial intermediation process operates (Gomber et al., 2017; Lee and Shin, 2018).The increased significance of FinTech is that it could be used to overcome the long-standing issues of financial exclusion. Through digitalization, FinTech lowers the costs of transaction, increases access, and empowers financial institutions to reach underserved groups in the past. Research has also demonstrated that digital finance can go a long way to enhance financial inclusion through low-cost and convenient financial services, especially in developing and emerging economies (Ozili, 2018; Sahay et al., 2020). Furthermore, FinTech innovations allow conducting transactions in real-time and enhancing financial transparency, which enhances the effectiveness of financial systems in general (Chen et al., 2019).Nonetheless, the connexion between FinTech and financial inclusion is not as direct as that. Even though FinTech could serve the purpose of inclusion, it can also result in new types of exclusion when some groups have no access to digital infrastructures or lack the competences to adopt the digital technologies. This duality of FinTech has been observed in recent literature, where people focus on the fact that digital financial services can improve and disadvantage involvement in contextual factors (Tok & Heng, 2022). It is necessary to comprehend the wider factors of FinTech adoption and its influence on financial inclusion.The socio-cultural factors are also influential in the adoption and use of the digital financial services. The willingness of the individuals to use FinTech platforms can depend on cultural norms and social influence references, trust in technology, as well as behavioural attitudes. Despite the significance of technological and economic aspects, socio-cultural aspects tend to dictate how people understand and use financial innovations (Ozili, 2021). An example of this is the extent to which digital systems can be trusted and the level of acceptance of technology by the society especially in the areas with low exposure to formal financial systems.Also, structural determinants, e.g. access to infrastructure, regulatory frameworks, cost efficiency are also determinants to the effectiveness of FinTech in enhancing financial inclusion. The presence of digital infrastructure, including internet connectivity and mobile networks, have a direct influence on the access to digital financial services. On the same note, innovation may be promoted, and the safe and inclusive proliferation of FinTech solutions may be ensured with the help of favourable regulatory environments (Philippon, 2016; Vives, 2017). Regulatory and institutional backing have also been highlighted in a global financial inclusion agenda, whereby coordinated efforts are being exploited to ensure that the benefits of digital finance are reaped to the fullest (Khera et al., 2021).Some of the economic and technological factors that contributed to the rapid development of the global FinTech ecosystem are investment flows, market demand, and technological development. The fact that FinTech markets appear in the global market is an indication of the growing inclusion of digital technologies into the financial industry, which introduces new innovation and competition opportunities (Haddad and Hornuf, 2019). Moreover, the latest technological progress like central bank digital currencies (CBDCs) and financial services based on cryptocurrencies have broadened the digital finance spectrum and provided new opportunities to improve financial inclusion and stability (Ozili, 2023).Although existing literature on the topic of FinTech and financial inclusion is increasing, the area still requires studies in which the impact of technological, structural, and socio-cultural elements is considered collectively. The socio-cultural factors affecting the adoption and use of FinTech have received relatively less research although many studies have centred on economic

and technological aspects. This gap explains why a holistic perspective should be embraced, which would combine several different angles to be able to understand more effectively the dynamics of financial inclusion in the digital era (Thakor, 2020; Frost, 2020).In addition, global financial inclusion projects, including the ones mentioned in the Global Findex Database, show that despite the fact that the accessibility to financial services has increased, there are still considerable differences in this matter within the regions and people (Demirguc-Kunt et al., 2020). Such differences reinforce the idea of the necessity of specific interventions that not only overcome the technological obstacles but also the social and cultural barriers.The current study will discuss the contribution of FinTech to financial inclusion, specifically in socio-cultural aspects. Through the examination of the interrelations between the use of FinTech, perceived benefits, socio-cultural, and financial inclusion, the study aims to offer an in-depth explanation of the forces behind digital financial transformation. The results are likely to fill the gaps in the literature by providing empirical data concerning the relative significance of various factors impacting the financial inclusion process and the necessity to implement combined approaches to combine technological innovation with social and institutional assistance.

2. RESEARCH METHODOLOGY

2.1 Research Design

The current research employs quantitative and descriptive research design in order to discuss the interconnection between FinTech and financial inclusion through the prism of socio-cultural aspects. A quantitative method is suitable because it allows the systematic measurement of the perceptions, attitudes, and behaviours associated with digital financial services with the help of structured data. The research takes a cross-sectional design as it entails gathering data about respondents at one instance. The design will help examine the current relationships between the variables as FinTech usage, perceived benefits, socio-cultural influences, and financial inclusion. Patterns and trends can be identified through the descriptive element, whereas the infers analysis can be used to analyse relations and predictive impacts.

2.2 Data Collection

The research is based on primary data collected through the application of a structured questionnaire developed to reflect diverse spheres of FinTech adoption. The questionnaire will consist of the questions regarding awareness, usage patterns, financial inclusion, socio-cultural aspects, the perceived advantages such as the improvement of access and the lowering of cost, and barriers to adoption. The data collection methods applied both online and offline data collection were applied to ensure that a larger number of people were covered. The online responses were collected using digital means and the data collected offline were gathered through a direct face to face meeting between the respondents. A combination of this dualistic approach to investigation made it possible to incorporate the individuals with varying levels of digital presence, accessibility, and literacy, thus making the sample more diverse and more representative.

2.3 Sampling Technique

The respondents were selected using non-probability convenience technique, as there are several practical limitations, e.g., time, cost, and accessibility. The sample size of the study is 200 respondents whose demographic backgrounds are diverse, age, gender, education, occupation, and place of residence being different. Even though the results may not be generalizable due to the use of convenience sampling, it is appropriate when conducting exploratory as well as descriptive studies with the aim of establishing the patterns and associations between variables.

2.4 Instrument Design

The study instrument in this research is a structured questionnaire with 30 questions created to measure different aspects of FinTech adoption and financial inclusion. To answer important study constructs, the questionnaire was structured into various sections to cover them systematically. The first part dealt with demographic traits of the respondents whereas the following parts dealt with FinTech awareness, usage behaviour, financial inclusion, socio-cultural factors, perceived benefits of inclusion like improved access and lower cost, and obstacles like fraud perception, language barrier, and technological barriers. The items were formulated according to the observations made in the available literature and theoretical models so that the concepts are conceptually relevant. It was ensured that there was clarity, neutrality and simplicity in wording to prevent vagueness and bias in responding, and as a result, the respondents were able to give accurate and constant answers.

2.5 Measurement Scale

The research utilises the five-point Likert scale to the perceptions and attitudes of respondents in relation

to different issues of FinTech and financial inclusion. The level is between 1 (Strongly Disagree) to 5 (Strongly Agree) where a respondent is able to give different levels of agreement or disagreement. The method is popular in the social science research because it allows objectifying subjective opinions and provides the opportunities to employ the methods of statistical analysis.

2.6 Data Analysis Techniques

Proper statistical methods were employed to process and analyse the collected data. In the first stage, data cleaning and coding was done to achieve accuracy and consistency. The data was summarised by means of descriptive statistics to analyse the main tendency and distribution of the main variables, the central tendency, and the distribution. The analysis of reliability was performed in order to determine the internal consistency of the measuring tool. The inferential statistical methods were used to test the relationships and analyse the effect of independent variables on financial inclusion. The strength and direction of relationships between variables were measured by means of correlation analysis, whereas the impact of such factors as awareness, level of use, the improvement of access, the reduction of costs, socio-cultural variables, and perceived benefits on financial inclusion was assessed with the help of multiple regression analysis. Besides, we plotted the patterns, distributions and variability of the data using graphical illustrations, including bar charts, histograms, and boxplots, which were helpful in interpreting the statistical results.

2.7 Reliability and Validity

The research instrument was adequately designed concerning the reliability and validity of the measurement in order to provide accuracy and consistency of the instrument. Reliability is the degree to which the instrument will give similar results when used in the case of different observations, whereas validity is the degree to which the instrument will measure the desired constructs. The internal consistency reliability was determined by using the available statistical methods to ascertain that the items in each construct make sense and they are measuring the same concept. Several methods were used to validate the study. In determining content validity, all the dimensions of FinTech adoption and financial inclusion that are relevant to adoption were added to the questionnaire. Construct validity is obtained by matching the items of the questionnaire with the conceptual definitions and theoretical frameworks. It was also guaranteed that the questions were clear and understandable and hence face validity. All these make the research tool more credible and strong.

3. DATA ANALYSIS AND INTERPRETATION

3.1 Demographic Analysis

The demographic characteristics of the respondents give a valuable background to understanding the outcomes of the study. The sample includes individuals of various age, gender, education level, and occupational level. The respondents of younger and middle age are also quite numerous, according to the results, which presupposes being more active with digital technologies. In the case of education, most of the respondents have at least undergraduate level of education meaning that there is relatively knowledgeable population which can use digital financial services.

Occupationally, the sample consists of students, salaried, and self-employed people, because the sample has a wide range of financial needs and consumption behaviour. A rural, semi-urban and urban dispersion of the respondents is also used to ensure that the study assumes an extensive coverage of access to digital infrastructure. Overall, the demographic framework supports the use of the outcomes to learn about the FinTech adoption and financial inclusion.

3.2 Descriptive Statistics

To study the overall trends in the data, descriptive statistics were reviewed on important variables as shown in Figure 1.

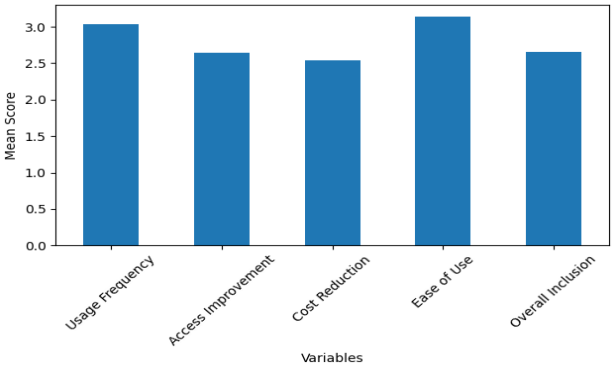

Figure 1: Mean Values of Key Variables

The values in figure 1 demonstrate the mean values of the variables, which are frequency of use, access improvement, reduction of cost, ease of use, and financial inclusion. The results indicate that all the variables describe the average of moderate scores because respondents rated at the centre of the scale.

The average frequency of usage and variables associated with trust are relatively high, which presupposes that the level of acquaintance with digital financial platforms is growing. However, the variables related to the improved financial inclusion and access empennage are moderate, i.e., digital finance already became more accessible, yet its full potential has not been utilised. This represents rather a temporary phase of digital financial adoption in which there is greater activity among the users but structural barriers still remain in place.

3.3 Reliability Analysis

The consistency of the measurement instrument was evaluated to ascertain internal consistency across the variables. As a measure of reliability Cronbachs Alpha has been applied and the findings show that the internal consistency is very high with a coefficient of 0.822. Cronbach alpha of 0.7 is typical and acceptable whereas above 0.8 is good reliability. Thus, the received value proves that the questionnaire items are quite consistent and reliably assess the constructs that question the FinTech use, financial inclusion, and socio-cultural variables. The good internal consistency indicates that the variables used in the research are well-established with the theoretical framework. It also shows that the respondents have understood the questions in the questionnaire in a similar manner and thus, measurement error is reduced. This increases the validity of the analysis and justifies the validity of the later statistical results.

3.4 Correlation Analysis

Correlation analysis was used to investigate the correlation of variables, and the findings are shown in Table

Table 1: Correlation Matrix of Key Variables

Variables	Usage Frequency	Access Improvement	Cost Reduction	Ease of Use	Overall Inclusion
Usage Frequency	1.000	-0.104	-0.082	0.215	0.050
Access Improvement	-0.104	1.000	0.642	-0.118	0.696
Cost Reduction	-0.082	0.642	1.000	-0.095	0.702
Ease of Use	0.215	-0.118	-0.095	1.000	-0.312
Overall Inclusion	0.050	0.696	0.702	-0.312	1.000

The obtained correlation findings suggest that financial inclusion is closely linked with the enhancement of accessibility and the reduction of costs. The variables demonstrate a high positive correlation with financial inclusion, and the value of accessibility and affordability should be emphasised in ensuring inclusive financial systems. The close interdependency between the access improvement and the cost reduction also indicates that the two aspects work in concert in determining financial inclusion.

Conversely, the usage frequency has only a weak correlation with financial inclusion, which means that the higher financial services are used through digital capacity, the more likely that they will be included. There is a negative correlation between ease of use, which is an indicator that usability is not enough to yield inclusive results. These results highlight the role of structural over behavioural determinants to financial inclusion.

3.5 Regression Analysis

Regression analysis was conducted to determine the combined effect of various variables on financial inclusion and the findings are as shown in Table 2.

Table 2: Multiple Regression Results

Variable	Coefficient (β)	Std. Error	t-value	p-value
Constant	0.227	0.283	0.803	0.423
Awareness	0.111	0.069	1.594	0.113
Usage Frequency	0.110	0.056	1.969	0.050
Ease of Use	-0.217	0.062	-3.493	0.001
Access Improvement	0.378	0.066	5.692	0.000
Cost Reduction	0.413	0.060	6.902	0.000
Family Influence	0.016	0.070	0.226	0.821
Social Influence	0.078	0.061	1.283	0.201
Trust in Technology	-0.016	0.069	-0.234	0.815
Faster Transactions	-0.041	0.057	-0.725	0.469
Convenience	0.100	0.057	1.747	0.082

The result of the regression shows that the most important predictors of financial inclusion are the access improvement and cost reduction. The two variables have positive and significant coefficients, meaning that access to financial services and decreased costs are very important in facilitating

inclusion. Ease of use is also significantly associated with negative relationship with financial inclusion indicating that usability alone may not yield inclusive outcomes. This can be an indication of how complicated the process of digital adoption can be, with other more influential factors like accessibility and affordability. The frequency of usage shows a slightly significant positive effect, which shows that the higher the level of engagement with FinTech services, the higher the inclusion to the degree. The socio-cultural variables, family influence, social influence, and trust in technology are not significantly directly impacted, which indicates that they might influence the variable indirectly or even contextually.

3.6 Model Summary

The performance of the regression model as a whole is in Table 3.

A 3: Model Summary

Statistic	Value
R^2	0.627
Adjusted R^2	0.607
F-statistic	31.71
Significance (p-value)	< 0.001
Durbin-Watson	2.013

The model explains a lot of the variation of the financial inclusion, where the independent variables explain 62.7% of the variation. The value of F-statistic is high and will ensure the overall robustness of the model, and the value of Durbin-Watson will ensure the absence of autocorrelation. These findings confirm the appropriateness of the model in the study of financial inclusion.

3.7 Distribution of Financial Inclusion

To better understand the trend of financial inclusion among respondents, the distribution of financial inclusion scores is shown in Figure 2.

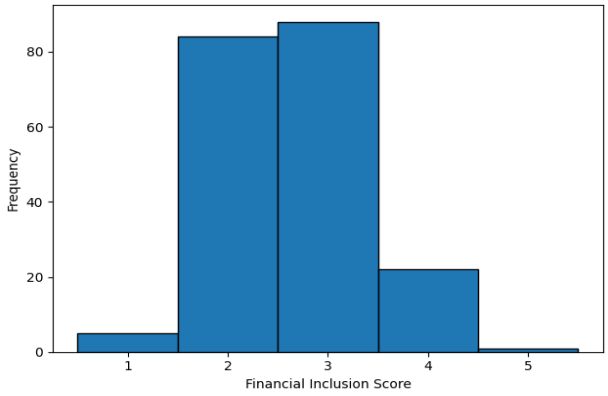

Figure 2: Distribution of Financial Inclusion

The distribution of financial inclusion demonstrates that the lines of responses are clustered between the mid-range values of the scale. It means that foreign inclusion is not very low or completely developed rather it is moderately established among the respondents. The inclusion of the responses around the central values indicates that there is a transitional period in the usage of digital financial services that the people have started engaging with formal financial systems yet have not attained full integration.The distribution form also demonstrates a relatively equal distribution without severe skew and means that the perceptions of financial inclusion are more or less similar throughout the sample. This uniformity indicates that the advantages of FinTech are being enjoyed by various demographic groups albeit to a low extent. The lack of high skewness shows that responses are not highly polarised, as well, extreme levels of exclusion and inclusion are not high.

Interpretively, this central of the road distribution highlights the reality that even though FinTech programmes have assisted in increasing the provision of financial services in most cases, there are several structural and contextual impediments that continue to subdue the complete impacts of these programmes. The accessibility of digital financial services by some groups may be capped by such forces as digital literacy, infrastructural barriers and affordability. Therefore, this distribution outlines the fact that certain interventions are necessary to ensure that digital financial systems are more inclusive and more appropriate to the underserved populations.

3.8 Variability of Key Variables

To further examine the dispersion and uniformity of the responses concerning the important variables, a boxplot analysis was performed as presented in Figure 3.

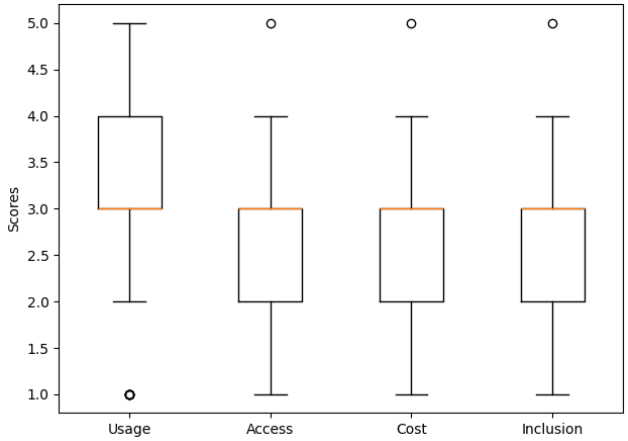

Figure 3: Boxplot of Key Variables

A boxplot can provide a graphical illustration of the allocation, concentration, and measurement of the significant variables, including the frequency of use, the improvement of access, the decrease of costs, and financial inclusion. The findings depict that the interquartile ranges of these variables are quite narrow meaning that there is an average degree of variability of responses. It means that the majority of the respondents have similar views on the adoption of FinTech and its influence.

The median values of the variables are placed in the middle of the scale, which again supports the previous conclusion that the respondents demonstrate moderate levels of engagement and inclusion. The comparatively symmetrical distribution of the boxes shows that the data are evenly distributed around the median which also supports the uniformity of responses.

Critically, the boxplot does not indicate existence of any significant outliers implying that there are no extreme deviations in responses. This lack of outliers also makes the analysis credible since it shows that the findings are not determined by unusual or deviant findings. The consistency of the variables also allows to acknowledge the validity of the measurement instrument and the fact that respondents have interpreted the questionnaire items in a similar way.

Analytically, the variability analysis indicates that the degree of diversity in responses is not that high to demonstrate that there are significant differences between respondents. This implies that the practise of FinTech and financial inclusion is not heterogeneous among the sample. Nevertheless, the moderate spread suggests the need to still improve the situation, especially concerning the need of people, who might be on the lower end of the inclusion scale.

Altogether, the boxplot analysis is a complementary analysis to the results of the correlation and regression analysis because it proves that the data is stable and consistent and also offers information regarding the distribution and diversity of the main variables. These results support the assumption that the process of financial inclusion is developing, although it still needs more efforts to become more comprehensive.

4. DISCUSSION

The results of the current research offer valuable information about the contribution of FinTech to the promotion of financial inclusion, especially in the environment of socio-cultural and structural factors. The findings show that access improvement and reduction of cost are the most important determinants of financial inclusion, whereas socio-cultural variables are not found to have strong direct impacts. These results are aligned with the current literature that highlights the potential of financial technologies in digital form to broaden access to financial services as well as lower the cost of transactions (Kampani, 2024; Toma, 2024).

The positive substantial impact of the enhancement of access on financial inclusion corresponds to the existing literature that emphasises how digital platforms empower people, particularly in underserved areas, to engage in formal financial systems (Amnas et al., 2024). On the same note, cost reduction is also important in facilitating inclusion by reducing entry barriers to attain affordability and accessibility of financial services. These results back the case that FinTech innovations are an important way of increasing financial inclusivity by countering structural inefficiency of conventional financial systems (Ha et al., 2025).

The regression findings also indicate that the financial inclusion is slightly influenced by the usage frequency. This implies that the simple use of digital financial services does not need to result in any significant incorporation. Rather, it is quality and access to the services; more than frequency of use. This fact is aligned with previous studies that suggest that financial inclusion is not only a factor that is contingent upon access to technology, but also the efficiency and functionality of financial services (Gozman et al., 2018).

One of the most interesting and somewhat counterintuitive results of the study is the negative correlation between ease of use and financial inclusion. Although ease of use is mainly viewed as a facilitating factor to technology adoption, the findings indicate that it does not directly improve inclusion. This can be indicative of the complexity of digital finance adoption, in which other factors including trust, infrastructure and accessibility are being more dominant. The same has been observed in works discussing FinTech adoption, with usability not being a sufficient factor to yield inclusive results without favourable structural support (Buchak et al., 2018).

The study can also conclude that the financial inclusion is not directly influenced by socio-cultural factors (including family) and social influence and trust in technology in a statistically significant manner. It does not mean that these factors are irrelevant; it means that they may have an indirect or situation-specific impact. As an example, the socio-cultural could influence the attitudes toward the use

of FinTech but not necessarily access to financial services. Partially, this finding is in line with previous studies that reveal that even though socio-cultural aspects determine the behaviour of users, structural and institutional factors tend to have a greater determinant effect on the effectiveness of financial inclusivity (Zetzsche et al., 2017).

The idea of digital financial transformation being in a transitional phase is further supported by the moderate distribution of financial inclusion as observed in the study. FinTech has improved access to financial services, but the rate of such benefits is not the same among various groups in the population. This is consistent with the results of research on the subject of mobile money and digital financial services, indicating that although these technologies enhance financial access, gaps will always exist because of the differences in the digital literacy and infrastructure, as well as, the socio-economic status (Suri and Jack, 2016; Jack and Suri, 2014).

Additionally, there is no substantial variability and outliers in the data, which means that the process of FinTech adoption is relatively consistent among respondents. This implies that there is a growing standardisation of digital financial services, yet simultaneously, it denotes how a particular intervention is necessary to ensure that more people that continue to be marginalised by financial inclusion are met. Research on the emerging markets also highlights the significance of customised financial solutions to make sure it is more inclusive and equitable in terms of growth (Del Sarto & Ozili, 2025; Yahaya, 2026).

Policy and practise implications of the results of this research are also possible. Although FinTech innovations can be used to improve financial inclusion, they can only be effective when fundamental factors like digital literacy, regulatory frameworks, and infrastructure restrictions are mitigated. Recent studies have emphasised the role of regulatory support and digital financial literacy as important mediating variables that connect FinTech and financial inclusion (Amnas et al., 2024). Moreover, the fact that FinTech is included in larger economic and environmental goals, including inclusive green development, further emphasises the fact that it can lead to sustainable development (Wang et al., 2025). The study proves that financial inclusion is a multidimensional process which is shaped by complex of technological, economic, and social factors. Although FinTech is an effective enabler, the effects are mostly structural, i.e. in terms of access and cost effectiveness and not necessarily the demographic factors on their own. The findings form part of the increasing body of literature on digital finance because they give empirical results on how various determinants of financial inclusion rank.

5. CONCLUSION

This paper explored the FinTech effect in advancing financial inclusion, and specifically the socio-cultural aspects and structural forces. The results prove that FinTech has a great role in financial inclusion, the main way of which is to increase access to financial services and lower transactions costs. These formal elements became the determining factors and led to the importance of accessibility and affordability in bringing more people to the formal financial systems. Although there is a rise in FinTech usage, the findings point to the fact that people may be using FinTech, but still not included. Rather, the success of digital financial services relies on the capability to overcome the basic impediments like cost, access, and infrastructure. In the study, it is also established that social-cultural influences, even though they play a role in the perception of the user, have no strong direct relationship with financial inclusion. This implies that they could be indirect and situational. Moreover, the general trend of financial inclusion reveals a mediocre and changing condition, which means that digital financial transformation is yet to occur. Despite the opportunities offered by the growth of FinTech, problems of digital literacy, trust, and insufficient infrastructures remain. To sum up, financial inclusion is a complex phenomenon, and it should be addressed through a multidimensional approach as the combination of technological innovation, favourable policies, and better access procedures. Further studies can be conducted on the longitudinal viewpoint and the indirect influence of the socio-cultural factor in a deeper way.

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