

Financial technology and Financial Inclusion: Evidence from Nepalese Small and Medium Enterprises

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Abstracts

This study examines the influence of financial technology on financial inclusion in Nepalese small and medium enterprises (SMEs). The research adopts a causal and quantitative approach to cater the need of the study. A well-structured questionnaire was designed to collect data from 400 respondents who were selected using purposive sampling technique. The data has been examined and processed through regression and correlation using SPSS. The results reveal that behavioral Intention is the most accurate predictor of financial inclusion, while social influence and service trust follow next in predictive power. In low-trust settings, such as Nepal, the adoption of fintech services hinges on trust. This research advocates the enhancement of financial inclusion in Nepal on the nexus of social, behavioral, and trust constituents, as well as the digital literacy and infrastructure in rural Nepal, which remains to be researched.

Keywords: Fintech, Financial Inclusion, Behavioral Intention, Social Influence, Service Trust.

1 Introduction

The rapid growth of fintech and digital financial services further deepen financial inclusion of small and medium enterprises (SMEs) in developing countries like Nepal. SMEs perform a major economic function in Nepal, but have a traditionally been underserved in terms of access to financial services. There is global evidence of the positive relationship between fintech and financial inclusion, but is still lacking in the context of Nepal. The objective of this research is to examine the extent to, which social attributes, trust in services, and behavioral intentions affect the adoption of socio-culturally responsive fintech services by Nepalese SMEs. There is an abundance of studies, including Mohamed & Otake (2025) and Rahman et al. (2025), but there is a gap in longitudinal studies in Nepal focusing on the impact of fintech on financial inclusion.

In Nepal, socio-cultural nuances carry additional complexities such as socio-economic, geographical, financial literacy, and cultural resistance towards use of fintech. Mothobi and Kebotsamang (2024) and other studies have considered other developing countries also adapting the fintech industry, particularly African and Scandinavian countries. Unlike Nepal, the specific impediments to the adoption of fintech services have been under-researched. Certainly, the rural parts of a developing country are most likely to face greater obstacles in accepting such services, hence concentrating rural areas in adoption gap research. The rural-urban divide and the resultant different levels of obstacles and achievements of gap software services and fintech adoption are the main Why of rural South Asian countries. These are the socio-cultural barriers to software fintech adoption services in Nepal. The rural socio-economic context of South Asia also accounts for the relatively low adoption of fintech software services in Nepal.

This incorporates the examination of the social influence and social trust of the services, which are significant precursors of the behavioral intention to adopt fintech. And naturally, as Aloulou, et al. (2024) explains, the primary of these is trust and its adoption. Though, this is the case of rural Nepal. A significant variable which is largely absent from the scholarship is the relatively low digital literacy to apply fintech services in the researched areas. A significant barrier to the adoption of the technologies is the digital illiteracy present in the population. This is the case especially for the large segment of the population in Nepal. This is especially the case since the digital literacy gap is relatively small in comparison to other developing countries and the population in Nepal is quite large.

To begin with, the regulatory environment surrounding the adoption of fintech in Nepal has yet to be analyzed thoroughly. Documenting the evidence on Nepal's financial regulatory frameworks may explain how such frameworks could promote the growth of fintech and foster the establishment of an inclusive financial ecosystem. Furthermore, the combination of traditional banking and fintech is an underrated field of research, but most likely will improve accessibility for the digitally unbanked population. Moreover, the impact of fintech on the overlooked segments of the population, especially women, the youth, and the disabled, is one of the most unattended in Nepal. The potential of new technologies such as blockchain and AI to advance financial inclusion has been far too disregarded in Nepal. This research will help in addressing the gaps by showcasing how such technologies could be utilized to promote and deepen financial inclusion for the most disadvantaged in Nepal.

2 Objective of the Study

The general objective of the study was to explore the influence of Behavioral intention, Social influence, service trust and usability on financial inclusion in Nepalese SMEs. However, the specific objectives are as follows:

O1: To measure the relationship between Behavioral intention, Social influence, service trust, usability and financial inclusion.

O2: To examine the impact of Behavioral intention, Social influence, service trust and usability on financial inclusion.

3 Literature Review, Hypothesis Formulations and Conceptual Framework

Behavioral Intention and Financial Inclusion

Behavioral Intention was first conceptualized by Ajzen in 1991, and points toward the expected acceptance of Fintech and digital financial services. Ajzen in his Theory of Planned Behavior (TPB) shows that formation of BI is influenced by attitudes, subjective norms and perceived control. In the context of Fintech adoption, BI is influenced by the perceived usefulness (PU) and the perceived ease of use (PEOU) of the financial technologies which are key in the Technology Acceptance Model (TAM) (Davis, 1989). In relation to the BI of the TPB and the SMEs in Nepal, the most relevant and appropriate is the inclusion of individual attitudes and social interaction, which was discussed by Venkatesh et al. (2003).

Financial inclusion refers to the access and use of affordable financial services (including credit and payments) that reinforces business operations (Ayyagari et al., 2016). Fintech Adoption enhances Financial Inclusion as the digital financial services are very essential to SMEs in developing economies (Arner et al. 2016).

Studies show there is a relationship between 'behavioral intention' and financial inclusion. Alalwan et al. (2017) reports that people's intention to use mobile banking brings about better financial outcomes. Furthermore, Ghanem et al. (2018) reports that the greater the intention of the Fintech adoption, the better the financial access for the SMEs. Nevertheless, the identification of this relationship is still lacking in the SMEs of Nepal, given the absence of longitudinal studies on the subject, particularly regarding the role of the trust and security issues that contribute to adoption conflict (Cohen, 2017).

The reporting of behavioral intentions is accomplished through the use of the Likert scale. This scale correlates behavioral intentions to behavioral attitude, control, and social influence (Ayyagari et al. 2016). Financial inclusion, on the other hand, is determined based on one's access to digital payment systems and business loans. These variables, however, can be shaped by the socio-cultural and geo-sectoral dimensions, which is the case of trust in digital systems likely to be lower in Nepal, thereby More affecting the rural SMEs than the urban SMEs when it comes to Fintech accessibility.

Nevertheless, most of the literature within the domains still focus on quantitative approaches such as surveys and Structural Equation Modelling (SEM) to explain the relationship in question, however, this study is most likely to be better off with a mixed approaches methodology. Thus, following hypothesis was formulated:

H1: There is a significant impact of Behavioral intention on financial inclusion.

Social influence and Financial Inclusion

Social influence speaks to the capacity of other people such as friends, colleagues, and social circles to affect a person's decision and behaviors. In the case of Fintech, Social influence is the adoption of digital financial services by people of importance or/ and a group of people who willingly exert pressure or motivation. According to Fishbein and Ajzen (1975), social pressure, or subjective norms, is one of the major determinants of the behavioral intentions of people towards the use of a technology.

When considering Fintech adoption by SMEs, social impact describes the phenomenon whereby an individual recognizes the authority of peers, associates, or business leaders as being important for the adoption of digital financial services. The social factor, alongside perceived ease of use and usefulness of the system, strongly influences technological adoption (Venkatesh et. al., 2003). More so, in the Nepali social context, for SMEs, social pressure and peer influence, are likely the primary drivers for the adoption of Fintech to achieve minimal compliance with industry standards or to retain market competitiveness. Awa et al. (2016) and Bouwman et al. (2008) are among many scholars who confirmed the influence of social factors on technology adoption. Peer industry social influence, as indicated by Awa et al. (2016), largely explains the digital service adoption by SMEs. Therefore in Nepalese SMEs, social influence of industry peers resulted in the adoption of FinTech.

Notwithstanding the above social relationships, in Nepal, the understanding of the adoption of technology in the structure of SMEs, social relationships focus on the next social framework are quite limited.

Numerous scholars converge on the consumer aspect of the adoption at the Social Influence within SMEs (Zhu et al, 2006) tells the above story. Furthermore, the predicted Social Impact of Technology on Adoption Influence on the peers, on the other hand, is highly heterogeneous. The Social Influence of Peers, in particular, is extremely heterogeneous by domain or region; this is an important area of study.

Social Influence, in general, is measured using Likert Scale questions that measure the level of social pressures SMEs feel that they should adopt Fintech Services (Venkatesh et al, 2003). The social influence of other particular sphere or other areas, is highly contextual regarding the Cultural Setting Social Sphere, Geographical Context, Business Networks.

Most studies on Social Influence rely on quantitative approaches, particularly surveys and structural equation modeling (SEM). However, to explain Social Influence in the Adoption of Fintech, to the Nepalese SMEs a Mixed Method Approach is more appropriate. Thus, following hypothesis was proposed:

H2: There is a significant impact of Social influence on financial inclusion.

Service Trust and Financial Inclusion

Trust in services rendered deals with the confidence of customers (or potential customers or entities) concerning the service provider's skill and reliability in the provision and delivery of services and processes. In the context of Fintech adoption, service trust determines the propensity of SMEs in embracing digital financial services. The perception of trust on the part of service providers is expected to positively impact the willingness of SMEs to adopt Fintech, especially when service providers are perceived to have the required competencies to manage their financial transactions, data and business in a secure manner.

Adoption of certain technology and services which involve loss of financial data, such as certain fintech services, relies on having developed certain level of trust, as suggested by Gefen et al (2003). McKnight et al (2002) has indicated three elements which facilitate development of trust in services: competency, benevolence, and integrity of the service provider. In fintech, trust stems from the belief in the firm's technical ability and integrity in the safe and responsible management of transactional data when processing services.

Given the extremely low financial digital literacy and traditional way of utilizing banking services in Nepal, having trust in the digital financial services within the Nepalese SMEs is crucial. Research works, such as Shao et al. (2016) and Lwin et al. (2020), indicate that there is a direct relationship between fintech adoption and continued usage of a service offering with the level of trust in the service provider, especially in the area of digital transactions. There is high likelihood of getting low adoption of a fintech service offering due to high efficiency and low cost, if the Nepali SMEs perceive high level of insecurity and low reliability to such service offering.

Research has increasingly indicated that service trust correlates with the acceptance of Fintech service use. Tan and Teo (2000) illustrate this in the e-commerce context where consumer trust in e-commerce service providers positively predicts the consumer's intent to transact. Similarly, in the context of banking, Hernandez and Mazzon (2007) argue that trust in online banking service offerings is a crucial determinant of digital financial product adoption. This argument applies to the adoption of Fintech by SMEs in Nepal.

The undeniable importance of integrating Fintech services in Nepalese SMEs make understudied phenomena in this sector of the integration of Fintech services at the SMEs level. The available literature on Consumer Adoption focuses on the other facets of the Trust/Trust Phenomena Fintech Adoption at the level of the Small and Medium Enterprises. Furthermore, the existence of Fraud and Data Breaches that characterize the Developing Fraud and Data Breaches in Developing Nations continue to raise concerns and remain and as a core impediment to the adoption of Fintech services, even with Fraud and Data Breaches being a part of Developing Nations (Liu et al., 2019).

Instrument Survey on the field of Service Trust was developed whereby the researcher seeks to estimate to what extent SMEs perceive Service Provider as being Trust Worthy, Competent, and having Integrity within the Service Provider as to what extent does these Trust, Competence and Integrity Measures influenced the SMEs. Trust on the basis of Trust being demonstrated through the Defensibly Controlled Access to Sensitive Financial Data Trust means the Fintech Service Provider is a Legit/Not Scam.

The weak Digital Service Trust in the Nepalese Context, is highly likely to be low in the urban and rural SMEs Digital Service Trust. Thus, following hypothesis was set:

H3: There is a significant impact of service trust on financial inclusion.

Usability and Financial Inclusion

The definition of usability is how easy it is for users to interact with the system to accomplish their goals. With ease of adoption by SMEs Fintech services is to design functionality, and user-friendly financial services such as digital mobile banking, online payment, and digital loans. The ease of use of the services without the significant technological barriers involvement is the more likely they will adopt and more likely they will continue use the services.

Usability has been the main predictor of the intended use of Fintech services. Davis (1989) discusses PEOU, perceived ease of use, as the main predictor of the users' behavioral intention of the use of the services. Given the digital literacy gap of the Nepalese SMEs, usability of Fintech services is even more important. The adoption of SME services is determined by the ease of use the service, regardless of the numerous benefits the service has to offer (Venkatesh et al,2003).

The relevance of usability in technology has been discussed in numerous studies. Venkatesh and Bala (2008), for instance, found that customers opted for mobile banking services that were user-friendly. Similarly, Chong et al. (2012) discussed that ease of use and continued use of a FinTech platform was directly influenced by users cognitive load and reduction of their interactions.

The usability of digital services is even more important to Nepalese SMEs since they probably will lack technical competencies. There is a need for user-friendly digital financial services, since SMEs are likely to consider such services overly complex and refrain from using them. Usability factors like design of the interface, ease of use, and customer service accessibility affect the ease of FinTech adoption (Lichtenstein & Williamson, 2006).

The literature centered on the concept of Fintech usability by SMEs shows us some of the major concepts of Fintech usability; however, it is still not enough. This is even more prominent in the literature concerning developing countries like Nepal. Ethiopia and Nepal are countries with a huge deficit of research regarding the usability of Fintech innovations. There are even more research gaps regarding the adoption of such innovations in the peripheral SMEs, evidence is primarily concerning the peripheral SMEs case. Usability and the extent it offers value is also influenced by the extent of technology acceptance (Liu et al. 2019).

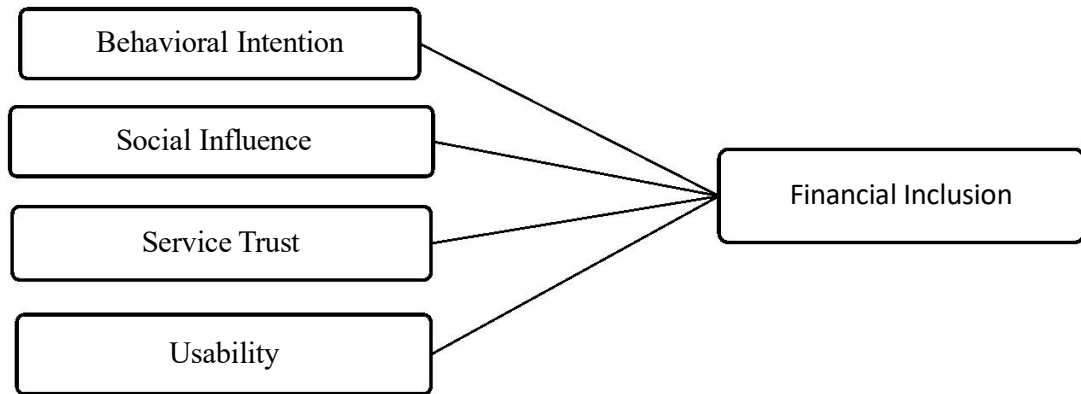
Measuring usability includes a number of user satisfaction and usability surveys as well as evaluation on a number of factors such as ease of use and intuitiveness and general experience of using the digital service. In such disparate digital literacy context, soliciting feedback from the SMEs on interaction design and accessibility of the platforms is paramount. Thus, following hypothesis was formulated:

H4: There is a significant impact of usability on financial inclusion.

From the above information, the following conceptual framework can be developed:

Conceptual Framework

Figure 1: Conceptual Framework



5 Research Methods

Determining the influence of Fintech on the Financial Inclusion of SMEs in Nepal is the purpose of this study while using the quantitative research methods of strategy: causal-comparative. A set of questionnaires using 16 closed question designs within Likert-type scales were used in conjunction with literature within the fields of Fintech to build cross-fitting consistency. 30 participants completed the questionnaires in a pilot study and suggestions made from this were incorporated.

Behavior intention was operationalized as a 4-items component of Venkatesh and Davis (2000) focused on the willfulness of intending adoption of Fintech in financial services. Social influence was measured using three items from Venkatesh et al. (2003) on the peer influence on adoption of Fintech. Service Trust was operationalized as per Gefen et al. (2003) . Usability was Davis (1989) as the level of ease of Fintech services incorporation into daily routines. FTFI as per Mazer and Beshouri (2018) was the extent off Fintech services made available to previously disadvantaged populations.

For the purpose of the survey, 400 respondents were sent the survey purposefully sampled using both digital and physical forms (Google Forms) for convenience. The data was processed through SPSS, using regression and correlation analyses. Standard ethical protocols were followed as respondents were informed and confidentiality was maintained.

Table 1: Respondents Demographics Profile

Demographic Variable	Category	Frequency (f)	Percentage (%)
Age	25-34 years	110	27.5

Demographic Variable	Category	Frequency (f)	Percentage (%)
	35-44 years	100	25.0
	45-54 years	95	23.75
	55 years and above	95	23.75
Gender	Male	220	55.0
	Female	180	45.0
Marital Status	Single	250	62.5
	Married	120	30.0
Education	High school	80	20.0
	Bachelor's degree	250	62.5
	Master's & Above	70	17.5
Position in the Company	Owner/Founder	91	22.75
	Manager	167	41.75
	Employee	142	35.5

The received data point to the distribution of ages of the respondents being in some sense an age heterogeneous sample, in which the respondents in the range of between 25 to 34 years accounted for 27.5%, the next range being of ages 35 to 44 years comprising 25%, followed by age ranges 45 to 54 years and 55 years and over age groups both comprising 23.75%. It is the younger age groups who are more likely to be acquainted with technology and willing to adopt some of the available fintech solutions for their use. On the other hand, older respondents are chiefly more careful in their adoption of fintech, yet, they can experience the use of fintech for the efficient management of their finances.

55 percent are male respondents and 45 percent are female, so it can be claimed that there is some degree of equilibrium in the representation of both sexes. The latter is of value when it comes to assessing how both male and female holders of SMEs perceive and make use of fintech in the interest of financial inclusion.

It can be noted that most of the respondents are single (62.5%). This can be taken to suggest that younger respondents who have fewer family responsibilities to deal with are most likely to be willing to consider the use of fintech. On the other hand, 30 percent are respondents who are married, and are likely to be concentrating on the management of the household finances and are therefore likely to adopt fintech for use with family centered financial management.

As for education, a percentage of 62.5 holds a Bachelor's degree, a clear sign they are fairly educated, technology-friendly, and are more likely to use fintech. 20,000 has education up to high school, which could create barriers to use of fintech services, and 17.5 have Master's or higher, evidence of high competency for what finance is and a likely use of fintech for personal and business finance.

Lastly, 41.75 of the respondents are managers, which means a lot of them have those authoritative positions within their companies. 22.75 are business owner/founders who, more than any other role, would want to use fintech for their business, while 35.5 are users of the fintech services and their use would be for personal finance.

This variety in the demographic profile shows that there are different patterns with the use and interest there is in fintech depending on age, education level, marital status, sex, and role in the company.

4 Results

Table 2: Correlation Matrix between independent and dependent variables

Constructs		BI	SI	ST	UB	FI
BI	BI	1				
SI	SI	.574**	1			
ST	ST	.462**	.467**	1		
UB	UB	.655**	.451**	.453**	1	
FI	FI	.355**	.653**	.703**	.407**	1

** . Correlation is significant at the 0.01 level (2-tailed).

(BI = Behavioral Intention, SI =Social Influence, ST=Service Trust, UB=Usability, FI = Financial Inclusion).

Table 2 contains information about the correlation matrix between the different independents' components of the study, namely: (i) Behavioral Intention (BI); (ii) Social Influence (SI); (iii) Service Trust (ST); and (iv) Usability (UB); and the dependent variable: (v) Financial Inclusion (FI). The matrix contains the respective pair of constructs' Pearson correlation values. The significance of all the correlations to the 0.01 level (2-tailed) indicates that there was a very strong correlation of all the variables to one another. Behavioral Intention (BI) has a positive correlation to Social influence (SI), ($r = 0.574$), Service Trust (ST), ($r = 0.462$), Usability (UB), ($r = 0.655$), and Financial Inclusion (FI), ($r = 0.355$). Social Influence (SI) has positive correlation with Service Trust (ST), ($r = 0.467$), Usability (UB), ($r = 0.451$), and Financial Inclusion (FI), ($r = 0.653$). Service Trust (ST) has strong positive correlation ($r = 0.453$) with Usability (UB), and Financial Inclusion (FI), ($r = 0.703$). Usability (UB) has a positive correlation ($r = 0.407$) with Financial Inclusion (FI).

It can therefore be inferred that there exists a positive correlation to all the variables whereby as one variable of the four: behavioral intention, social influence, service trust and usability increases, so does the level of the dependent variable: financial inclusion.

Table 3: Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	0.06	0.01			4.57	0.00
	BI	0.56	0.04	0.45		15.61	0.00
	SI	0.08	0.03	0.07		2.73	0.01

ST	0.57	0.17	0.63	3.40	0.00
UB	0.09	0.02	0.07	4.83	0.00

a. Dependent Variable: FI

6 Discussion and Conclusion

The study examines the most important variables that affect Financial Inclusion (FI), which include the influence of Behavioral Intention (BI), Social Influence (SI), Social Trust (ST), and Usage Behavior (UB). These variables are in line with the Theory of Planned Behavior (TPB), which states that the intention of an individual is the strongest determinant of the actual behavior (Ajzen, 1991). Out of the various predictors of FI, Behavioral Intention is ranked the highest and this aligns with the study conducted by Klapper et al (2016), which concludes that the intention of people to utilize financial services is the cornerstone of their inclusion in the financial system. As the study concludes, the higher the intention of the people to utilize financial services, the higher the level of financial inclusion they perceive.

Also Social Influence is another important factor that drives Financial Inclusion. As pointed out by Venkatesh et al (2003), peer and social group influence is fundamental and this has been observed during the adoption of new technological devices, which is equally applicable in financial services. An individual's decision towards the adoption of financial services is greatly influenced by social networks and recommendations that come from family, friends, or work colleagues. This is based on the premise that the financial behavior of an individual is determined by the behavioral patterns of those in the individual's social network.

Another critical predictor of Financial Inclusion is Social Trust (ST). Trust is especially critical in financial systems within countries with low trust in institutions such as is the case in Nepal. Guiso et al. (2004) noted the importance of social trust for the usage of financial services, which is also the case in this study. In areas where there is often distrust of financial institutions, trust in financial systems needs to be created to positively impact financial inclusion.

Moreover, the study supports the importance of Usage Behavior (UB) as also noted by Sarma (2012) and Klapper et al. (2016). The more financial services one uses, the more one comes to know the financial system, and the more one becomes at ease with and trusts the financial institutions. This study shows that the more employees of an organization use financial services they will more likely feel part of the financial system.

The study addresses elements of behavioral intention, social influence, social trust, and usage behavior and how all these come together to drive financial inclusion. This builds on previous scholarship and adds the neglected area of social trust. By advocating for the inclusion of social trust, this study broadens the understanding of financial inclusion in contexts where there is little trust in financial systems.

The results of this study show that financial inclusion is influenced by the individual and the social dimensions. The most important individual dimension is behavioral intention. The study shows that the intent to use financial services is a predictor of the

actual use of the financial services. This supports the inclusion of intention in the financial behavioral outcomes. Social influence also matters. People are often influenced by the behavior of those within their social circle. Social trust is important to the adoption of financial services in low trust environments. This highlights the need to establish trust in financial systems.

The study also highlights the impact of Usage Behavior (UB) on financial inclusion, indicating that using financial services on a regular basis fosters a greater sense of belonging to the financial ecosystem. The implications of this finding indicate the focus of financial service providers and policymakers ought to be UB factors for financial inclusion to be advanced. Providers should be engaged in activities that develop individuals' positive intention to use financial services, built UB trust, and high service use.

In addition, the study posits that financial inclusion efforts should extend beyond the ease and convenience (access) of financial services to include behavioral and social factors that motivate use. The social systems and trusted financial institutions, along with personal and intentional factors, are paramount in the successful implementation of financial inclusion. There should be an articulated use of available financial services to address the social and behavioral systems that functional policymakers and financial service providers develop, and that include very high trust financial institutions.

Ultimately, this study demonstrates the complexity surrounding the research subject of Financial Inclusion. The study emphasizes the necessity of Financial Inclusion, especially in situations where financial services are difficult to access, as a result of the role of Behavioral Intention, Social Influence, Social Trust, and Usage Behavior. These findings are relevant within the context of Nepal and similar situations in the world. The study proposes integration of social/ behavioral/ trust approach as the main strategy to overcome this problem.

7 Limitations and Future Research

Focusing only on one geographical context, specifically Nepal, is another limitation of this study, as it restricts its applicability to other areas with distinct cultural, economic, and institutional environments. Additionally, this study is limited to the use of self-reported data, and it is highly likely that social desirability and recall bias may influence the results. The cross-sectional design is another limitation, as this restricts the ability to draw conclusions on cause and consequence relations between the variables. Longitudinal studies would give a better understanding of how these relations develop over time. Despite this study focusing on the role of Social Trust as one of the predictors of financial inclusion, it may not have sufficiently examined the culturally and historically rooted factors which are likely to significantly differ from one community to the other and affect the Trust in Financial Institutions.

Future studies could examine other possible predictors of financial inclusions such as digital literacy, infrastructure access, public policy, and educational programs around financial literacy. More insightful studies would be built around the longitudinal methodology, including financial inclusions and the other elements of this research study. Expanding and branching research to study other areas of the world and other countries, especially those with lower socio-economic status, would be valuable to

financial inclusions studies contextual. God and other demographics of financial behavioral patterns and access to financial services would be valuable research studies around the inclusiveness of financial services. Increased financial inclusiveness around mobility and underserved communities in the cross-section of economic mobility and financial inclusiveness would be valuable to socio-economic advancement.

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