



## Nexus between Financial Literacy and Financial Inclusion with the Mediating Role of Social Networks

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### ABSTRACT

This study examines the relationship between Financial Literacy (FL) (financial knowledge, attitude, and skill) and Financial Inclusion (FI) using the mediating effects of Social Networks (SNs). FI ensures that people have access to financial goods and services whereas FL assures that people are aware of these products and services. The data for this particular research is collected directly from the customers of microfinance institutions (MFIs) through a structured questionnaire. The convenience sampling approach is used to get the questionnaire filled from the customers. 420 customers of MFIs are the respondents to the study. Partial Least Square (PLS) Structural Equation Modelling (SEM) data analysis technique is used to assess the relationship among the variables involved. The results reveal that FL has direct significant effects on FI except for the dimension of attitude. The finding also shows that SNs fully mediate the nexus between FL and FI. This study is limited to the customers of microfinance banks. However, prospective research may include customers of commercial banks. SNs serve as a channel for transferring financial information, hence also increasing people's FI.

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## 1. Introduction

There is ample evidence that SNs among actors within a social ladder can lead to the financial growth of the economy. Granovetter (1973) states that strong ties are important for sharing information in the job market. In Uganda, knowledge dispersion enhances the level of FI among the poor through the existing social tie (Bongomin, Munene, Ntayi, & Malinga, 2018). Milroy (1980) concludes that those individuals, who are connected to each other through SNs, are contracted by informal social relationships. Social interactions enhance the level of trust, the capacity for collective actions, and information sharing among peers, colleagues, friends, and relatives.

SNs are defined as social structures that are made up of groups and dyadic ties among individuals (Wasserman & Faust, 1994). FI is a mechanism that assures the timely provision of financial services to customers at a reasonable price (Rangarajan, 2008). FL is a capability of a person to use their knowledge for managing their resources effectively (PACFL, 2008). Moreover, FL enhances financial knowledge and empowers people for making better financial decisions, and for evaluating and undertaking various financial matters for their convenience (A. Lusardi, Michaud, & Mitchell, 2017). However, OECD reports elucidate that financial awareness remains low due to scarce channels of communication through which financial awareness and training can be provided (Organization for Economic Corporation and Development (OECD), 2016). The nodes and ties are combinations of SNs that enhance access to mandatory financial information among human beings. SN of an individual can bring

financial skills and knowledge into socioeconomic circulation (Jo Balatti & Falk, 2002). Coleman (1994) finds that SNs are derived from interaction among individuals, and are also beneficial for resource exchange, transfer of information, and intellectual growth. R. Burt (2004), Rogers (1995), and Strang and Tuma (1993) state that the needy people, who are closely connected through SNs, share their financial experiences. An individual, through SNs, promotes access to limited resources such as financial information (J Balatti, Black, & Falk, 2006).

The majority of initiatives, relating to FL, occurs inside the existing SNs, where financial skills are turned into practical financial decisions (Stack, 2008). Reagans and McEvily (2003) conclude that SNs may be considered as channels for the transfer of financial knowledge to the poor. As a result, impoverished people, who participate in an association network, may enhance their financial knowledge. This also helps them to make better financial judgments while making decision (Cohen & Nelson, 2011).

Atkinson and Messy (2012), Kempson (2009), and A. Lusardi et al. (2017) analyze the effects of FL on FI, and Bongomin, Ntayi, and Malinga (2020) examine the relationship between FL and FI with the intervening role of SNs. Scant empirical studies are available to investigate the mediating effect of SNs in the association between the dimensions of FL and FI. The prime objective of this study is to measure the role of SNs as a mediator in the relationship between FL and FI for the customers of microfinance banks (MFIs). The presence of SNs serves as a channel for the transmission of information to assist the poor in making better financing and investment decisions.

## **2. Literature Review and Hypotheses Development**

### **2.1. Financial Literacy (FL) and Financial Inclusion (FI)**

There is a growing need in society, particularly in less developed nations, to be financially literate due to unprecedented growth in consumer debt, and lower level of savings (Anthes & Most, 2000). Financial exclusion arises from lack of knowledge and comprehension of complicated financial products. Financial exclusion has been caused by ignorance and a low level of FL, particularly among the unbanked people in rural regions (Agarwal, 2007). According to Atkinson and Messy (2013), the primary reason of financial exclusion is the lack of awareness about available financial products. There is now a gap in terms of whether financial products meet certain criteria that prevent their usage and trust in suppliers, i.e., financial institutions. Consumers, who are dissatisfied with certain financial products, might consciously refrain from using such products (Shawn Cole, Sampson, & Zia, 2011).

Poor attitude towards financial products may be attributable to lack of awareness, its operational mechanism and its cost, which may result into lesser probability of financial inclusion among improvised community as they are not better acquaint with the benefits of such products. Holzmann (2010) considers that in under developed economies, the general inclination and behavior of people towards savings, borrowings and getting insured is a barrier to financial inclusion. Moreover, Willis (2008) asserts that such handicaps may be overcome through financial literacy (FL) with the purpose to change their perception and behavior headed for financial products and inclusion.

FL provides awareness regarding financial management in a better way to bring them out of poverty, and empowers them to undertake better financial decisions (A. Lusardi et al., 2017). FL provides basic financial knowledge and skills desired for making financial decisions by which the usefulness of these financial products is maximized (Greenspan, 2002). FL significantly improves people's fundamental financial knowledge for taking effective decisions (Carpena, Cole, Shapiro, & Zia, 2011). Though, certain consumers are well-informed about the various sources of funding accessible through financial institutions but through organizational networks, low-income households have improved their financial knowledge and skill, which assist them undertake sound investment decisions (Cohen & Nelson, 2011).

Some researchers including Porteous and Helms (2005) and S Cole, Sampson, and Zia (2010) reveal that FI is influenced by financial literacy as a demand factor because financial literacy initiatives help improvised people understand the role and use of financial services. Moreover, well-being of such class of people is enhanced through the management of financial services because FL enables them to access and manage these services effectively. Therefore,

these people need to be financial literate in an adequate manner (WorldBank, 2012). These people need a certain level of comprehension about the financial products and services so that they could be able to evaluate and compare various available options before reaching at a selection of their choice e.g. a bank account, some savings and investment product, debt option etc.

FL serves as a significant variable that aids in reducing asymmetric information (Ardic, Heimann, & Mylenko, 2011). Previous studies depict that FL does not only provide basic understanding but it also stimulates poor individuals to get out of tough situations when it comes to choosing financial goods and services. Savings are significantly influenced by financial education (Greenspan, 2002). Jamison, Karlan, and Zinman (2014) examine the importance of FL among Ugandan youth groups and conclude that FL helps to increase deposits of banks. Grohmann, Klühs, and Menkhoff (2018) find that a greater level of FL improves financial decisions across different income levels. As a result, FL enhances decision-making, which boosts creditworthiness among the impoverished. Therefore, we hypothesize that:

H<sub>1</sub>: Financial knowledge (FK) significantly influences financial inclusion (FI)

H<sub>2</sub>: Financial attitude (FA) significantly influences financial inclusion (FI)

H<sub>3</sub>: Financial skill (FS) significantly influences and financial inclusion (FI)

## **2.2. Social Networks (SNs) and Financial Inclusion (FI)**

According to Granovetter (1973), SNs may enhance better access to financial information about available financial resources in market. Social networks develop information channels, facilitate transactions, and lower the cost of obtaining financial services such as loans (Woolcock, 1999). SNs serve as a channel for distributing information about available financial services among the impoverished segment of society (Grootaert, 2001). SNs serve as a screening technique for determining creditworthiness and decisions for receiving loans (Aryeetey, 2005; Grootaert, 1999). Okten and Osili (2004) state that SN promotes the exchange of knowledge regarding loan opportunities. R Burt (1992) reasons for the importance of SNs with its underlying economic benefits e.g. ease in obtaining debt for businesses and other economic ventures; and concludes that people with better SNs aid MFIs, in effect, attain data and information about the financial behavior of existing customers, which does not only help them foresee the financial needs but also enable them design future financial products.

The involvement of underprivileged people in SNs (friends and family), and the corresponding mutual trust makes it more convenient for such people reach a decision (Grootaert & Van Bastelaer, 2002). Yokoyama and Ali (2006) state that SNs improve an individual's ability to obtain market information coupled with lower cost of searching the same. van Bastelaer (2000) contends that SN is an important source of key information about the financial needs of deprived people for the financial service providers. In addition, the dimensions of SNs (tie, interaction and interdependence) also help financial service providers assess the credit worthiness of such group of people. A tie is a source of information about the relationships existing between or among people, and a tie relationship may be either missing or strong or weak. A strong tie represents a relatively longer term and stronger relationship between close people, whereas a weak tie exists between people who don't have close relationship between or among them e.g. people with higher travel history, people who love to live in solitude and likewise people.

According to the network theorists, the lifestyle of an individual is determined through a stronger tie within some SN. Granovetter (1973) explains the strength of weak ties stating that each person amongst the separated people normally has contacts, and their individual contacts result in flow of information from one to another, and become the source of information for the financial service providers. Further, the information about the poor can be accessed through the other people of the same SN. Burt (1986) R Burt (1986) asserts that the ties with local bridges connecting people from various structural gaps also helps financial

institutions acquire useful information about the poor people, anticipate the potential borrowers and track the repayment of loans.

Previous research by Karlan (2007), and Ahlin and Townsend (2007) find that amongst the impoverished people, SNs are ensuring that reimbursement contracts are followed. On the other hand, lenders are constantly concerned about moral hazards while giving loans (Stiglitz & Weiss, 1981). As a result, social relationships and the accompanying penalty alleviate the difficulty of adverse selection and moral hazards among the impoverished people (Floro & Yotopoulos, 1991). Networks assist the impoverished people by sharing information to their neighbors and peers, and for functioning as a monitoring tool for receiving financial facilities (Biggs, Raturi, & Srivastava, 2002). Therefore, we hypothesize that:

H<sub>4</sub>: There is a significant association between social networks (SNs) and financial inclusion (FI).

### **2.3. Financial Literacy and Social Networks**

FL entails the acquisition of skills and knowledge. FL initiatives among the poor take place within certain SNs. Informal SNs are beneficial to create a financial knowledge among the poor which are living in underdeveloped countries (WorldBank, 2009). An individual's knowledge is affected by the strength of interpersonal connections within certain SNs (Hansen, 2002; Uzzi, 1997). Networks depend on the social relationship that makes the access to financial knowledge and services easier among the impoverished people (J Balatti et al., 2006). People within some SNs, who communicate with each other's and have close ties, are more interested in disclosing financial information (Uzzi, 1997). Through organizational networks, low-income households have increased their financial knowledge and abilities (Cohen & Nelson, 2011). The SNs are used to exchange financial data and information (Reagans & McEvily, 2003), and various FL projects, especially in poor countries, rely on good communication via SNs (Stack, 2008). Therefore, we hypothesize that:

H<sub>5</sub>: There is a significant association between financial knowledge (FK) and social networks (SNs)

H<sub>6</sub>: There is a significant association between financial attitude (FA) and social networks (SNs)

H<sub>7</sub>: There is a significant association between financial skill (FS) and social networks (SNs)

### **2.4. Financial Literacy and Financial Inclusion through Social Networks**

FL occurs within SNs and it is dependent on providing access to different kinds of a SNs (J. Balatti, 2007). The nature of coordination and cooperation shows that how its members work together and share their goals within a network. Individuals can use SNs to get access to other resources for specific financial goals (J Balatti et al., 2006). The resources may take form of knowledge, expertise, monetary and other tangible means that help the members of a social network learn and excel better as they are better acquaint with the financial comprehension. Krackhardt (1990) and Reagans and McEvily (2003) indicate that after FL programs, the people may change their SNs in which they interact and connect with other people.

This result in the construction of dense SNs via codified and unspoken financial knowledge and information, and the same may also be shared and transferred among the poor. Moreover, the destitute people should seek knowhow from each other and identify the sources that may support them in recognizing the new network, which results in emerging networks of tacit knowledge for the poor people. In addition, individuals lying on the opposite ends of a structural hole may have access to knowledge distinct from others, and thereby, a stronger tie across a structural hole facilitate the transfer of knowledge and skill set from one to another (R Burt, 1992; Hansen, 2002).

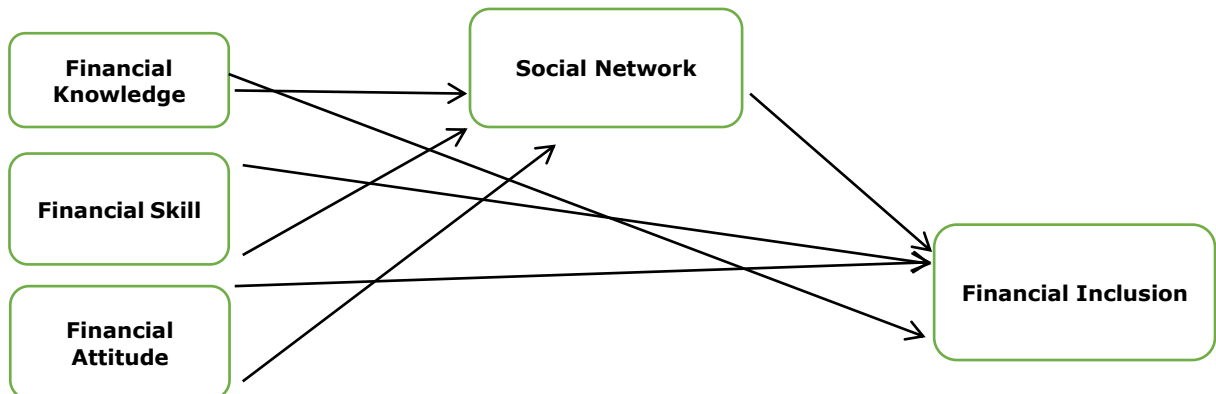
Falk and Kilpatrick (2000) also believe that a financially literate SN's member may boost the knowledge and abilities of the other members, if he/she shares it with others. Therefore, we hypothesize that:

- H<sub>8</sub>: Social Networks (SNs) significantly mediate the relationship between financial knowledge (FK) and financial inclusion (FI)
- H<sub>9</sub>: Social Networks (SNs) significantly mediate the relationship between financial attitude (FA) and financial inclusion (FI)
- H<sub>10</sub>: Social Networks (SNs) significantly mediate the relationship between financial skill (FS) and financial inclusion (FI)

### 3. Conceptual Framework

Conceptual framework explains the relationship among variables. Give below, diagram.

**Figure 1: Relationship between Financial Literacy, Social Networks & Financial Inclusion**



Source: Developed by Authors

### 4. Methodology

This research employs a cross-sectional research approach using a structured questionnaire. Customers of microfinance institutions (MFIs) serve as the unit of analysis. Data are collected from 420 customers of microfinance institutions (MFIs) in Pakistan. SEM (PLS) is employed in this study to examine the association between the variables and the intervening role of a SN. The sample size for employed items is five times the minimum or ten times the maximum (J. Hair, Anderson, & Tatham, 2010). This research collects data on 43 items from 420 respondents. All the responses are taken by visiting the branches of microfinance institutions (MFIs). A convenient sampling strategy is utilized. Convenient sampling is a method for gathering data that is conveniently available for the study from the population (Rahi, 2017).

#### 4.1. Measures the Variables of the Study

The primary goal of this research is to examine the role of SNs as a mediator while determining the relationship between FL and FI. Five-point Likert scale was used to measure the dimensions of FL, Financial Inclusion (FI) and Social Networks (SNs). The primary factors in this study are FL, FI, and SNs. FL was assessed by utilizing three dimensions of financial literacy such as skills, attitude and knowledge (Atkinson & Messy, 2012; Kempson, 2009; Annamaria Lusardi & Mitchell, 2009; Annamaria Lusardi & Tufano, 2009a, 2009b). The findings indicate that all of the items are over the cut-off marks. These marks are also suggested by Nunnally and Bernstein (1994), Sekaran (2003), and Amin (2005). These items get an alpha coefficient ( $\alpha$ ) and composite reliability (CR) values of more than 0.70 and Average Variance Extracted (AVE) of more than 0.50 according to the threshold (J.F Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014).

FI is assessed using the ACCION (2011), Čihák, Demirgüç-Kunt, Feyen, and Levine (2012), and Claessens (2006) with the dimensions of access, quality, usage, and welfare effect. Based on scales established by Ardic et al. (2011) on the fundamental pillars of FI in poor countries, the measuring scales are tailored to the research setting. The reliability and validity of the scales are examined, and the findings show that the items are more than 0.70 and AVE more than 0.50 according to the threshold (J.F Hair Jr et al., 2014). The questions

being used to quantify the SNs are adapted from prior academic studies by Ahlin and Townsend (2007), Godquin and Quisumbing (2005), Heikkila, Kalmi, and Ruuskanen (2016), Katz, Lazer, Arrow, and Contractor (2005), and Okten and Osili (2004). According to Hair et al. (J.F Hair Jr et al., 2014) reveal that an alpha coefficient ( $\alpha$ ) value and composite reliability (CR) value should be more than 0.70, however, AVE value should be more than 0.50. The items are tested for validity and reliability, and the findings show that they are valid and reliable. To devise clear and succinct questionnaire, any ambiguous notions, double-barrel questions, and difficult questions should be omitted (Tourangeau, Rips, & Rasinski, 2000).

**4.2. Establishing the Effect of Mediation**

When the impact of independent variable causes an effect on a dependent variable via mediator, the mediation effect exists. The mediating effect is represented by the degree to which direct impact is influenced by the mediating variable. As a result, two approaches for determining the mediation impact in a relationship have been employed in prior studies. While J. F. Hair, Anderson, Tatham, and Black (2010) used structural equation modeling (SEM) through the Bootstrap technique to test the mediation effect. In this study, the SEM Bootstrap technique using PLS is used to determine the mediating role among the variables. The SEM Bootstrap method is chosen since it outperforms the SPSS and PLS application. SEM enables the constructs of complex correlations between several variables. For indirect effects, SEM offers bootstrap confidence ranges and related statistical significance test.

To establish the mediating effect, SEM Bootstrap approach is used. Two models, namely the measurement and structural models, were made and the same were also suggested by J. F. Hair et al. (2010), and Preacher and Hayes (2008). Structural Equation Model (SEM) is used to assess and evaluate the correlations between variables. J. F. Hair et al. (2010) contend that while looking at the intervention impact, two contending models ought to be developed. Also, shows the direct and indirect impacts of the predictor variable on the outcome variable.

**5. Findings**

**5.1. Reliability and Validity Test**

In this study, partial least squares structural equation modeling (PLS-SEM) is used. PLS-SEM provides Construct Reliability and Validity to assess measurement quality. The construct's dependability is determined by Cronbach's Alpha (CA) scores and Composite Reliability (CR) scores. Cronbach's Alpha (CA) is a tool that measures internal consistency with a target value of 0.70 (Hair, Black, Anderson, & Babin, 2018).

**Table 1: Reliability and Validity Test**

<b>Constructs</b>	<b>Cronbach's Alpha</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
Attitude	0.811	0.888	0.625
FI	0.773	0.820	0.503
Knowledge	0.719	0.792	0.566
skill	0.721	0.784	0.553
SN	0.724	0.845	0.654

In this table, Cronbach Alpha (CA) and Composite Reliability (CR) of all the constructs are greater than 0.70 according to the threshold value (Hair et al., 2018). The Average Variance Extracted (AVE) values are also beyond 0.50 (J.F Hair Jr et al., 2014). This model shows a convergent validity.

**5.2. Hetrotrait Monorail (HTMT) Ratio**

The Hetrotrait Monotrait (HTMT) Ratio in PLS-SEM reflects that how far one variable in the model is empirically distinct from other variables (J. F. Hair, Risher, Sarstedt, & Ringle, 2019).

**Table 2: HTMT Ratio**

<b>Constructs</b>	<b>Attitude</b>	<b>FI</b>	<b>knowledge</b>	<b>skill</b>	<b>SN</b>
Attitude					
FI	0.433				
Knowledge	0.723	0.689			
Skill	0.820	0.609	0.885		
SN	0.583	0.692	0.611	0.644	

According to the threshold, HTMT ratio values should not be greater than 0.9 (Hair et al., 2018). The HTMT ratio for all constructs is less than 0.9, which is within the permitted range (Hair et al., 2018). It reveals that each constructs is empirically unique from the others.

### 5.3. Variance Inflation Factor (VIF)

The Variance Inflation Factor (VIF) is used to assess the correlation among independent variables. The higher the VIF value indicates the greater collinearity. According to J. F. Hair et al. (2019), a VIF value less than 3 which indicate that there is no Multicollinearity.

**Table 3: VIF**

Constructs	VIF
acc32	1.319
acc33	1.387
acc34	1.183
at17	1.633
at18	2.049
at19	1.814
knw11	1.417
knw12	1.296
knw13	1.153
qty38	1.293
qty39	1.579
qty40	1.350
sk14	1.282
sk15	1.258
sk16	1.173
tie26	1.150
tie27	2.335
tie28	2.241
usg35	1.392
usg36	1.828
usg37	2.049
wel41	1.332
wel42	1.172

Table 3 reveals that VIF value of all constructs is less than 3, which is within the prescribed range (J. F. Hair et al., 2019).

### 5.4. Predictive Power R<sup>2</sup>

By measuring the variance explained by the independent variables, the R<sup>2</sup> reflects the model's explanatory power (Shmueli & Koppius, 2011), and therefore, R<sup>2</sup> is also known as predictive power. The adjusted R<sup>2</sup> is recognized as a realistic predictor of accuracy in case of numerous regressions. Table 4 shows there is a 46.6% change in FI and 30.7 % change in SNs because of the FL (Knowledge, Skill and Attitude).

**Table 4: R Square**

Constructs	R Square	R Square Adjusted
FI	0.471	0.466
SN	0.312	0.307

### 5.5. Model Fitness

The PLS-Algorithm yields standardized Standardized Root Mean Squared Residual (SRMR) and Normed *fit* index (NFI) values. The SRMR value ranges from 0 to 1, with less than 0.08 indicating an excellent model fit (J. F Hair Jr, Sarstedt, Ringle, & Gudergan, 2017).

**Table 5: Model Fitness**

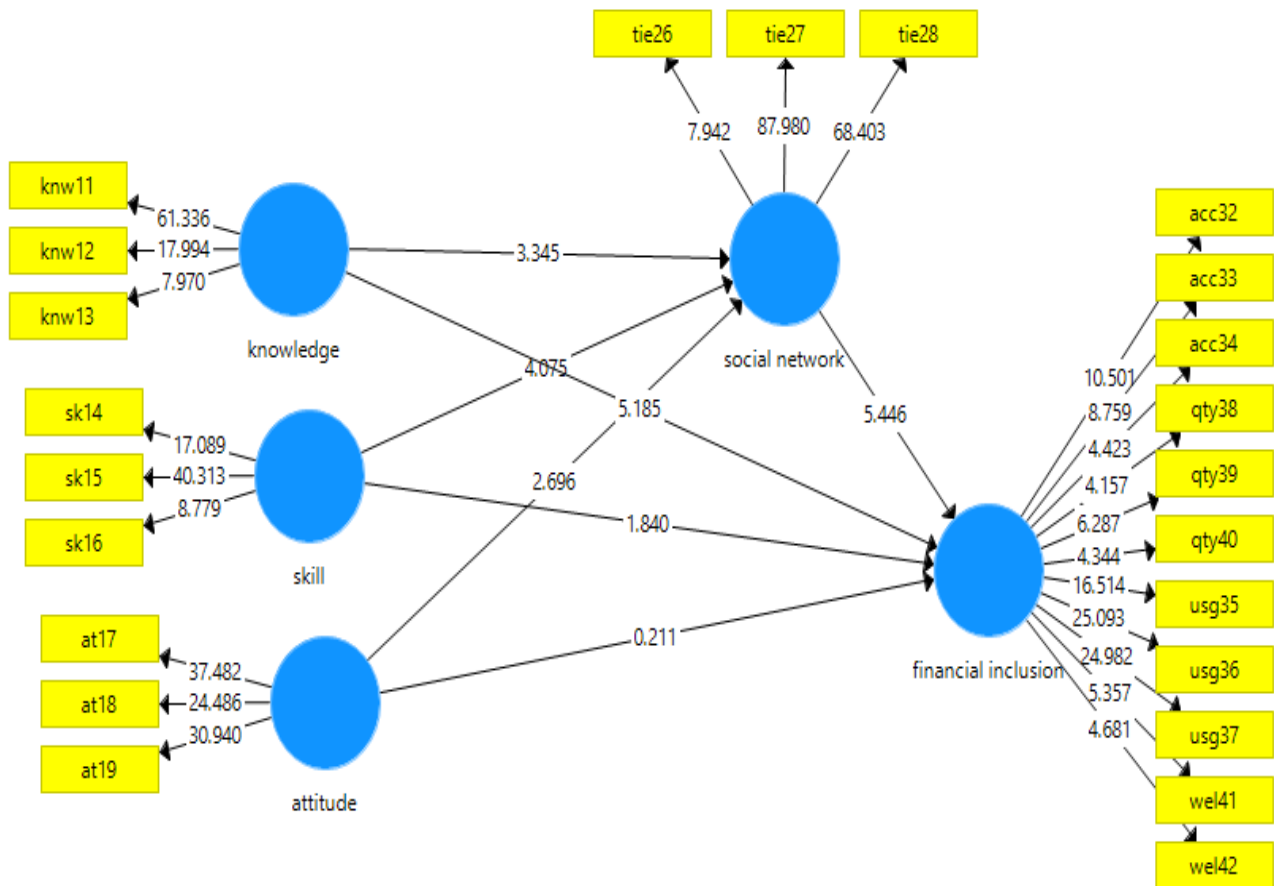
	Saturated Model	Estimated Model
SRMR	0.075	0.065
d_ULS	2.960	2.960
d_G	0.653	0.653
Chi-Square	2137.232	2137.232
NFI	0.648	0.628

The SRMR value of this study's SEM model is 0.065, which is less than 0.08 suggesting that the model is fit as per Table 5. The NFI value should lie between 0 and 1, and a value closer to 1 is preferred. This study model's NFI score is 0.628, which is near to one representing that it is fairly fitted.

**5.6. Structural Equation Model**

The PLS-SEM model evaluation demonstrates that the model is suitable for the measurement. So, research study will continue to investigate structural equation modeling (SEM), which reflects the model's quantifiability. The model's outer loading values are displayed for each and every construct.

**Figure 2: Structural Equation Modelling**



**5.7. Outer Loadings**

In structural equation modeling (SEM), the outer loadings are evaluated first. According to J.F Hair Jr et al. (2014) outer loadings values are considered good when the values is more than 0.70 of each constructs. Table 6 shows that all the values of the outer loading in the prescribed range according to the threshold which is greater than 0.70 (J.F Hair Jr et al. (2014)).

**Table 6: outer loading**

Constructs	Attitude	FI	Knowledge	Skill	SN
acc32		0.703			
acc33		0.715			
acc34		0.792			
at17	0.853				
at18	0.864				
at19	0.836				
knw11			0.894		
knw12			0.745		
knw13			0.786		
qty38		0.743			
qty39		0.708			
qty40		0.721			
sk14				0.705	

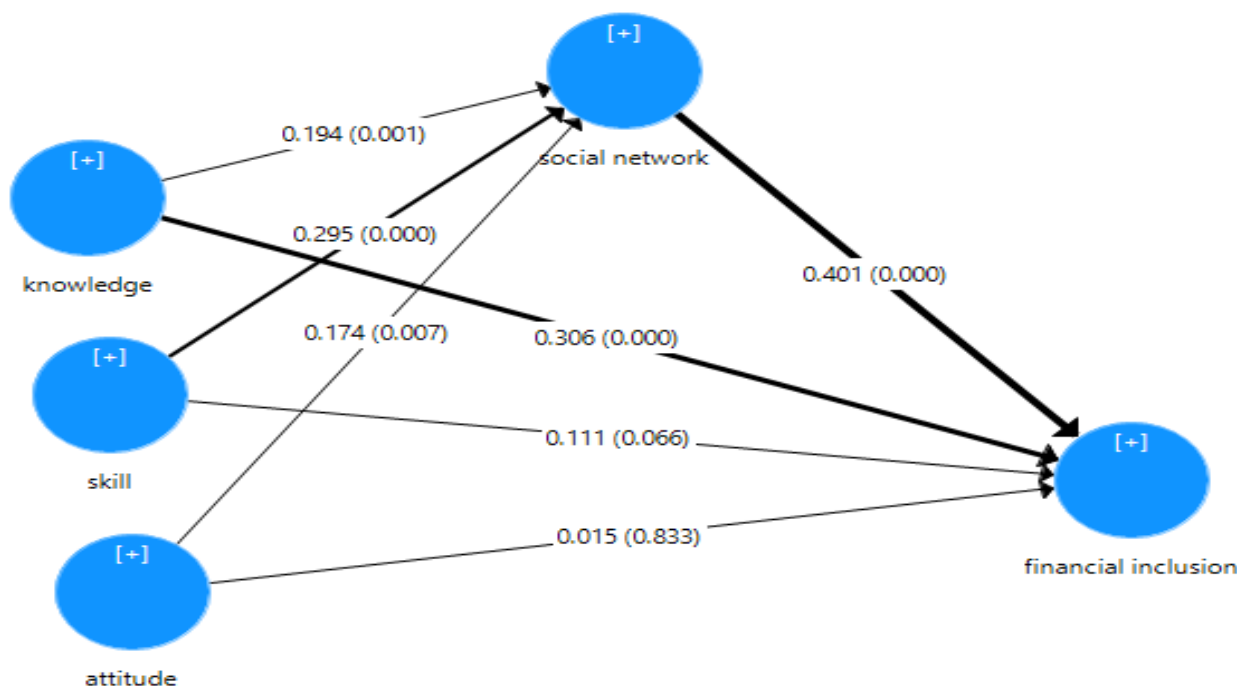


sk15		0.887	
sk16		0.714	
tie26			0.758
tie27			0.916
tie28			0.901
usg35	0.724		
usg36	0.717		
usg37	0.744		
wel41	0.741		
wel42	0.798		

### 5.8. Structural Equation Modeling Assessment

PLS-SEM bootstrapping is used in structural equation modeling to test the hypothesis. The P values for each construct are shown in Figure 3.

**Figure 3: PLS Path Coefficient Model**



### 5.9. Direct Effect Hypothesis Testing

PLS-SEM employed bootstrapping to test the construct hypotheses. Table 7 depicts the direct relationship between the constructs in the model. To test hypotheses P values are utilized. The P values between 0 and 0.1 indicate the strong relationship between the variables.

**Table 7: Direct Effect Hypothesis Testing**

Constructs	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
attitude -> FI	0.015	0.019	0.070	0.211	0.833
attitude -> SN	0.174	0.176	0.065	2.696	0.007
knowledge -> FI	0.306	0.306	0.059	5.185	0.000
knowledge -> SN	0.194	0.195	0.058	3.345	0.001
skill -> FI	0.111	0.115	0.061	1.840	0.066
skill -> SN	0.295	0.297	0.072	4.075	0.000
SN -> FI	0.401	0.400	0.074	5.446	0.000

Table 7 indicates that there is a direct and positive relationship between FK and FI as it shows a p value of 0.000 which confirm H1 (Kirana & Havidz, 2020). FA has a positive and insignificant relationship with FI as its p-value shows 0.822. This study's result is related to the previous study (Kirana & Havidz, 2020). This study also has direct and significant effects the variable with SNs as the FA p-value shows 0.007 and FK shows the p-value of 0.001. The

FS also have a direct relationship with SNs because its shows p-value of 0.000 (Bongomin, Malinga, Munene & Ntayi, 2017). The result indicates that there is a significant relationship between the SNs and FI as its p-value is 0.000 and the SNs show a significant relationship between FS and FI because its p-value shows a significant level. Thus, this research accepts all the hypotheses except the hypothesis of FA and FI.

### 5.10. Indirect Effect Hypotheses Testing

In table 8, the result of the study shows that there is mediation between FA and FI of customers because FA value in the direct path shows insignificant but in the indirect path it shows a p-value of 0.021 at a 5% significant level. The SNs mediate the relationship between FK and FI because p-values show 0.011 at 5% significant level. There is also mediation between FS and FI of the customers at a 1% significant level. So, the overall result shows that SNs fully mediate in the association between FL and FI.

**Table 8: Indirect Hypotheses Testing**

Constructs	Original (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
attitude -> SN -> FI	0.070	0.071	0.030	2.305	0.021
knowledge -> SN -> FI	0.078	0.079	0.030	2.556	0.011
skill -> SN -> FI	0.118	0.117	0.031	3.839	0.000

## 6. Discussion

The findings of this study show a significant relationship between SNs (tie) and the FI of financial services. Ahlin and Townsend (2007), and Karlan (2007) find that SNs (tie) is a useful tool for proposing members and enforcing repayment contracts among the underprivileged. Existing relationships help in the provision of knowledge about a customer's behavior to overcome the concerns in borrowing. Poor people rely on relationships since they can get benefit from one another in the network. Similarly, when information overlapping is minimized, structural gaps in networks promote the information flow across diverse clusters. Thus, the result is to give a new opportunity and more access to the resources in markets.

According to the conclusions of this study, there is a positive association between FL (knowledge, skill, and attitude) and FI. This supports our study's hypotheses. This study results in match with one of the previous studies (Kirana & Havidz, 2020). Indeed, financial knowledge and skills are gained via FL, which assists the poor in evaluating complicated financial products to make educated decisions and obtain the benefit from these items. Similarly, Supanantaroek (2015) finds that FL has a favorable and substantial influence on saving and spending behaviors among students of Uganda (Jamison et al., 2014).

The results also reveal that there is a positive relationship between FL and SNs. According to Stack (2008), most FL programs particularly in developing countries involve participatory education inside SNs. Importantly, the analysis shows that a SNs (ties) strongly and fully mediates the relationship between the dimensions of FL and FI. This analysis supports the hypothesis that FL occurs inside networks, and is based on gaining access to specific types of networks. (J. Balatti, 2007). Furthermore, Falk and Kilpatrick (2000) argue that if people share their knowledge and skills with others member, they can boost their own knowledge and abilities.

## 7. Conclusions

The primary goal of this research was to determine the role of SNs in mediating the association between FL and poor FI of microfinance institutions (MFIs) in Pakistan. These findings reveal a strong association between FL and FI. This supports hypotheses (H<sub>1</sub>), and (H<sub>3</sub>), which claim that there is a significant association between FL (financial knowledge and financial skill) and FI (Kirana & Havidz, 2020). These research results show that SNs and FI are positively and directly related, supporting the hypothesis (H<sub>4</sub>). Furthermore, the analysis of the results shows a significant association between FL and SNs. The results are consistent with the hypotheses, which suggest that FL and SNs among the poor have a strong and favorable link.

Finally, the analysis reveals that SNs (tie) considerably and favorably influence the association between FL and FI by microfinance institutions. The existence of SNs increases the effect of FL on FI by 46.6 percent. Overall, a combination of FL and SNs explains 30.7% of the variation in FI. This lends credence to the study's hypotheses of expected financial attitude. Thus, this study results show that SNs fully mediate the nexus between FL and FI.

### **7.1. Implication of the Study**

This research has broad ramifications for a variety of stakeholders, including employees, academics, society, policymakers, and government in general. FL is a complicated problem and the researchers explore the factors in this study. Customers need to change their financial behavior and attitude to enhance their FL. Customers must have a basic grasp of finance to save and invest effectively. Also, impoverished microfinance institutions (MFIs) consumers should participate in association activities to gain the access to limited resources i.e. loans or financing. Members of organizations might serve as a guarantor for poor people. This may result in increased access to financial services i.e. loans or financing. Authorities or Regulator in colleges or financial institutions may arrange meetings and seminars to educate clients about FL. This research can benefit society as a whole by assisting people in improving their money management abilities. According to the study's conclusions, everyone should improve one's financial awareness abilities to improve their FL and FI.

Governments and FL supporters in countries may encourage existing SNs to undertake FL initiatives. Existing SNs might encourage community members to attend FL training and raise awareness in their specific regions by encouraging them to mobilize. SNs may be utilized to transfer information about FL efforts among society. Furthermore, donors want to provide small business finance to the needy may take advantage of current social systems in the regions. These may be useful throughout the appraisal of the beneficiaries' economic position and appropriateness for the credits. The social ladders may provide information that may be utilized to identify persons who are eligible to get business loans from donors, particularly in impoverished regions.

### **7.2. Directions for Further Research**

The sample size in this study is small, which may not be representative of the entire population. FL and SN are the most common concerns among consumers of microfinance institutions (MFIs). Due to the convenience sampling, data is only collected from Lahore. Customers from various cities may experience different outcomes. It is worth emphasizing that the data is collected solely from Lahore only showing that there is more cushions to conduct onward research. Prospective researchers would be able to include all additional places or nations in their research, and employ a larger sample size. This study finds that SN features are essential in mediating the relationship between FL and FI, and researchers in Pakistan and other countries should look into this more. Other dimensions of SNs may also be included in the future research endeavors.

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