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Determinants of Islamic Financial Inclusion in Indonesia: A Demand-Side Analysis

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Abstract

The low number of Islamic financial inclusion has been a major problem to the Indonesian government because of the country has the largest Muslim population globally. This study aims to examine the Islamic financial inclusion determinants by collecting information from Muslim respondents. The determinants used include Islamic financial literacy, trust, financial self-efficacy, and social influence. The survey involved 215 respondents from West Java, Lampung, South Kalimantan, Gorontalo, and West Nusa Tenggara. All the participants involved in the study were included in Islamic financial institutions. Furthermore, the Exploratory Factor Analysis (EFA) and the Confirmatory Factor Analysis (CFA) methods were applied to classify Islamic financial inclusion determinants, while the Structural Equation Modelling was used to test the hypothetical relationships. The results showed that social influence is a significant determinant of Islamic financial inclusion in Indonesia. Therefore, policymakers and the Islamic financial industry need to improve social influence through campaigns that involve local culture and public or religious figures to enhance inclusion. Future studies need to provide other validated constructs to assess Islamic financial inclusion from the demand and supply aspects.

Keywords: *Islamic financial inclusion, Islamic financial literacy, trust, financial self-efficacy, social influence, exploratory factor analysis*

1. Introduction

Islamic finance has developed for the last 50 years and could devote itself to shared prosperity and enhance more inclusive economic growth (S&P Global Ratings, 2020). The contribution of Islamic finance has been extensively discussed in many works of literature. For instance, Ahmed (2017) stated that Islamic finance is essential in achieving the Sustainable Development Goals (SDGs) of the United Nations Development Program (UNDP). Furthermore, it could bridge religion-related problems in financial services (Karlan et al., 2021). However, it is necessary to discuss the contribution of Islamic finance in improving the economy of many Islamic countries. According to Kim (2018), OIC (Organization of Islamic Cooperation) member countries have few financial inclusion problems. This highlights the issue of financial services and inclusion in Islamic countries.

Most studies focus on the determinants of financial inclusion, which are the demand- and supply-side factors. The demand-side factor is related to the financial service customers excluded from financial services. Several studies have shown that socio-economic (Yangdol and Sarma, 2019; Zins and Weill, 2016), physical proximity, availability, and usage (Nandru and Rentala, 2019; Ramakrishna and Trivedi, 2018; Sotomayor et al., 2019), financial literacy (Er and Mutlu, 2017), social influence and culture (Ali et al., 2020) are the determinants of financial inclusion. On the other hand, the supply-side focus on financial service institutions, including the product and service (Terzi, 2015), infrastructure (Fungáčová, 2015), government intervention (Datta and Singh, 2019), and human capital (Mohammad Mahbubi Ali et al., 2020). This paper uses the term "Islamic financial inclusion" to describe the access, usage, and availability of Islamic financial services. Similarly, several studies

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have used this term to describe financial inclusion from the Islamic finance perspective, such as Ali et al. (2020) and *Otoritas Jasa Keuangan* (Indonesian Financial Service Authority, 2019).

The Global Findex Report (Demirguc-Kunt et al., 2018b) could be a reference for Muslim countries to prioritize financial inclusion. Kim (2018) stated that there is a close positive relationship between financial inclusion and economic growth. Therefore, the number of financial inclusions must be increased to achieve high economic growth. Indonesia has various Islamic financial services as a country with the largest Muslim population globally. Moreover, based on the Global Islamic Finance Report (2020), the country has the highest growth rate in Islamic finance development. On the contrary, the *Otoritas Jasa Keuangan* (OJK) Report 2019 stated that the percentage of Islamic financial inclusions in Indonesia is only around 0.89%. This evidence shows a sharp imbalance between Islamic financial services and inclusion.

Few studies deal with Islamic financial services as a provider of inclusion. While the existence of Islamic financial services is closely related to religious reasons, previous studies on financial inclusion have not dealt with religiosity in the Islamic view. In line with this, Demirguc-Kunt (2012) found that people choose to be financially excluded because of religious reasons. Similarly, Shihadeh (2018) showed that individuals' characteristics influence financial inclusion, including religious reasons. According to Mohammad Mahbubi Ali et al. (2020), religious commitment significantly influenced Islamic financial inclusion. Also, the Analytic Network Process (ANP) approach of financial inclusion shows that religiosity affects the choice for Islamic financial services. Therefore, to fill this gap, several attributes are considered besides religiosity attributes. These attributes include Islamic financial literacy, social influence from religious figures, trust in financial institutions, and self-efficacy view of Islamic finance that has never been explored. Different methods have been proposed to classify determinants, such as exploratory and confirmatory factor analyses, to enrich the research in Islamic financial inclusion.

This study empirically investigated several hypothetical factors linked to Islamic financial inclusion as determinants involving the chosen dimensions of social influence, finance knowledge, trust, and financial self-efficacy. Data were collected from West Java Province (representing Java Island), Lampung Province (Sumatera Island), South Kalimantan Province (Borneo Island), Gorontalo Province (Sulawesi Island) and West Nusa Tenggara Province (The Sunda Kecil Island). This paper is divided into five sections, including the introduction. Section two presents empirical literature on Islamic financial inclusion and its determinants in Indonesia, while the third section discusses the methodology and data. Sections four and five discuss the results and discussion and present the study findings, while the last section outlines the conclusion and recommendations.

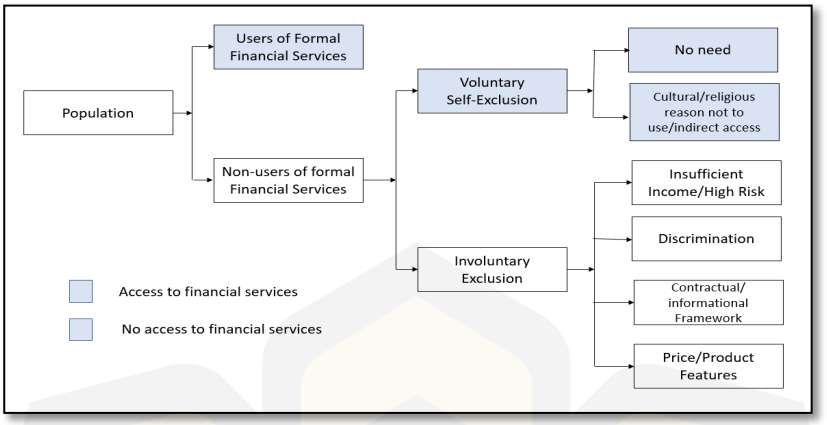
2. Literature Review

Financial inclusion is crucial in economic development and poverty alleviation programs (Sarma et al., 2011; Zulkhibri, 2016). Previous studies in Asia (Fungáčová, 2015) and Africa (Zins and Weill, 2016) have recorded low financial inclusion on these two continents. Furthermore, Muslims dominate these two continents, and most of them are OIC members. Kim (2018) and Moehildin (2011) showed that Islamic finance boosts the number of financial inclusions in Muslim countries. Also, scholars have debated whether to expect financial inclusion or migration from conventional to Islamic financial services (Tahiri Jouti, 2018).

Previous research shows that people have many reasons for preferring exclusion from financial services. For instance, Mohieldin et al. (2012), referring to The World Bank (2008), provided the earliest description of financial user characteristics (see Figure 1).

Financial users may be differentiated from the non-users that cannot access or refuse the financial system for various reasons. First, households and companies are deemed unbankable by commercial, financial institutions, and markets because they lack sufficient income, which is an unreasonable lending risk. Second, prejudice against such demographic groups may be based on socio-economic, religious, or ethnic grounds. Third, the contractual and knowledge system may prohibit financial institutions from accessing certain population groups because it is too expensive for commercial viability. Therefore, researchers explore financial inclusion problems from the demand side (Nandru and Rentala, 2019; Ramakrishna and Trivedi, 2018; Sotomayor et al., 2019). The characteristics of users are not only the accessibility problem but many other attributes that affect financial inclusion. The following subsection discusses the literature relevant to the relationship between financial inclusion and different factors.

Figure 1: The Financial Exclusion Factor



Source: The World Bank (2008)

2.1 Socio-demographic characteristics

Socio-demographic characteristics drive financial inclusion (Demirguc-Kunt et al., 2018a; Shihadeh, 2018; Zins and Weill, 2016). Therefore, most demand-side studies apply socio-demographic attributes, including gender, age, marital status, education, occupation, and monthly income. In line with this, Ng'weno (2018) and Soumaré et al. (2016) found that gender and marital status are the most significant attributes of financial inclusion in Central Africa. Moreover, Shihadeh (2018) found similar results in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP). In contrast to Shihadeh (2018), Oyelami (2019) stated that income and literacy are significant factors from Sub-Saharan African countries' demand-side. Studies conducted in Asian countries, such as the Philippines, Cambodia, and Indonesia, show that age, sex, civil status, education, employment, and income significantly affect access to financial products and services. Additionally, access to media, information, the internet, and household size are significant determinants (Sam, 2019). A positive correlation exists between access to Islamic financial products and higher family income. Therefore, these observations show that socio-demographic characteristics are part of Islamic financial inclusion.

2.2 Islamic financial literacy

Many studies showed that literacy on finance inhibits financial inclusion in developing countries (Sayed and Shusha, 2019). This is due to the low education level of people in these countries. OJK Report 2019 showed that Islamic financial literacy in Indonesia was at 8.92%. However, financial inclusion comprises the general literacy to be achieved and knowledge concerning Islamic finance (Iqbal and Mirakhor, 2012). In this case, knowledge requires a deeper understanding than literacy (Sayed and Shusha, 2019). Islamic financial literacy is developed to study finance products, such as savings, *takaful*, *sukuk*, credit cards, and individual retirement funds (Er and Mutlu, 2017). The participants' Islamic financial knowledge, attitudes, and behaviour were assessed cumulatively for financial literacy after analyzing their demographic characteristics.

A Muslim must understand many basic Islamic finance factors before carrying out financial transactions, such as usury prohibition (*riba*) and *gharar* and *maysir*. Ahmad (2020) divided Islamic finance literacy into subjective *Shariah* compliance knowledge and subjective usury and profit-sharing knowledge. According to Antara et al. (2016) and Setiawati et al. (2018), Islamic social finance awareness includes the practice of *zakat*, *infaq,* and *waqf*. Furthermore, understanding Islamic financial knowledge enhances access and involves the community to increase financial inclusion.

2.3 Trust

The Global Findex Report 2017 showed that trust influences people to choose financial services. In line with this, Camara (2015) stated that lack of trust is a barrier that represents involuntary exclusion. Several trust-based market failures exist, preventing consumers and firms from cooperating to complete a useful transaction. Trust is essential for a social system to promote cooperation among people to achieve efficient outcomes. Although the two parties may have a good exchange to make, they might not trust each other.

Xu (2020) stated that social trust is a significant determinant of access and intensity to various basic financial services and digital technology. Digital financial inclusion is of particular interest in alleviating poverty and fostering economic growth. It provides a low-cost way of promoting financial inclusion, particularly for people living in areas underserved by mainstream banking. In Indonesia, problematic microfinance institutions are often closed due to bad credit or unsuitable investments. This has resulted in a continued decline in trust, despite being labelled as Islamic financial institutions. However, this trust is to increase, along with Islamic financial institutions that are strong and trustworthy in managing their products and services.

2.4 Social influence

The theory of social learning underpinning financial inclusion postulates that others' actions may influence human behavioural habits through differential support mechanisms (Bandura, 1969). In this regard, a person may accept or reject such decisions because of society's demand or influence. Furthermore, this theory explains that highly experienced individuals significantly influence the general population. Many studies show that people's acceptance and involvement in Islamic banking activity are affected by their surrounding sources, parents, family, friends, and culture (Mohammad Mahbubi Ali et al., 2020; Maryam, Mehmood and Khaliq, 2019). However, Senyo and Osabutey (2020) stated that social influence does not affect the intention and use of mobile money services as part of financial inclusion, contrary to well-established positions. Together, these studies provide important insights into Islamic financial inclusion determinants from the demand side.

2.5 Financial self-efficacy

Financial self-efficacy is an individual's ability to access, use financial products or services, undertake a financial decision, and deal with the complex financial situation (Amatucci and Crawley, 2011; Noor et al., 2020). Also, self-efficacy characterizes a person's capability to execute an action to accomplish an expected performance (Bandura, 1969). Financial self-efficacy is related to the social cognitive theory, stating that self-efficacy perceptions influence individuals' lives concerning their financial objectives. Therefore, an individual's choices and determination in achieving tasks shape their thoughts and persistence in facing problems. Also, individuals' recognition of self-efficacy influences their performance, thinking, feelings, and self-motivation. Over the years, self-efficacy mediates the relationship between several variables and the desired financial action executions. Moreover, the predictive power of domain-specific self-efficacy directly influences individual tasks or choices. The same domain-specific self-efficacy indirectly affects the perceived positive outcomes frequently expected by individuals. Therefore, an individual's desired behaviour could be acquired and regulated based on their self-efficacy to obtain an inevitable outcome.

Individuals with sufficient financial knowledge and information are self-confident in their capabilities in making successful transactions (Noor et al., 2020). Mindra (2017) stated that self-efficacy and its relation to financial inclusion are particularly relevant. It fills the gap in the financial inclusion literature and theory. This is because a financial consumer's cognition and behaviour might be influenced by a belief in their abilities to engage in a specific task or activity (Rachel Mindra et al., 2017).

2.6 Islamic financial inclusion

Financial inclusion is the delivery of financial services to the bottom of the pyramid segment of society at an affordable cost (Iqbal and Mirakhor, 2012). This concept includes easy access to financial services for all households and enterprises, prudential regulatory and supervisory institutions, financial institution sustainability, and competition among service providers to bring alternatives to customers (Demirguc-Kunt et al., 2008). According to Sarma (2008), financial inclusion ensures the availability of the formal financial system for the society with easy access and friendly usage. These definitions show that key financial inclusion dimensions are accessibility and formal financial and bank services, and other services that improve the society's economic well-being.

Previous studies showed that the measurement of the financial inclusion index covered certain dimensions. However, Sarma (2008) constructed a multidimensional index for measuring financial inclusion, including accessibility, availability, and usage of the banking system. In line with this, Ali (2020) described Islamic financial inclusion as access, availability, and usage of financial products and services. Islamic financial product-and service-based profit sharing, such as banking, *takaful*, investment, *Baitul Mal wa Tamwil* (BMT), and wealth redistribution consist of *Amil Zakat* and *Waqf* Institution.

The literature discussed shows that most studies on financial inclusion determinants in both demand and supply sides analysis are conventional. Therefore, this study fills the gap in literature by examining the determinants of Islamic financial inclusion in Indonesia using the demand-side analysis.

Table 1: Definition of Terms

Dimension	Item Measurement	Attribute	Literature Source
Islamic Financial Inclusion	Accessibility measures Islamic banking penetration to low-income people.	Access	(Sarma, 2008) (Iqbal & Mirakhor, 2012) (Abdulmumin, Etudaiye-Muhtar, Jimoh, & Sakariyahu, 2019)
	This dimension measures the availability of Islamic banking services to low-income people.	Availability	(Camara & Tuesta, 2014) (Yorulmaz, 2018) (Franklin en Leora Klapper and Maria Soledad Martinez Peria & Franklin en, Asli Demirguc-Kunt, n.d.)
	This dimension measures the usage of Islamic finance products and services by customers,	Usage	(Asli Demirguc-Kunt et al., 2008) (Camara & Tuesta, 2014)
Islamic Financial Literacy	Financial awareness and understanding of the financial concepts, procedures, and the use of this understanding to solve financial problems	Financial Knowledge Sharia Compliant Financial Knowledge Usury and profit-sharing Halal literacy Islamic Social Finance	(Sayed & Shusha, 2019) (Er & Mutlu, 2017) (Ahmad et al., 2020) (Mohammad Mahbubi Ali et al., 2020) (Albaity & Rahman, 2019)
Social Influence	The perceived social pressure to use or not to use an interest-free transaction from any Islamic financial institutions	Influence from Family, Friend, Society, public figure and Informal religious leader to choose Islamic Financial Institution	(Camara & Tuesta, 2014) (Senyo & Osabutey, 2020) (Maryam et al., 2019)
Trust	Trusting Islamic financial institutions regarding their saving and credit, as well as people and management	Trust to Islamic finance Institution Trust to people managing their money Trust *Shariah*-compliant practice	(Xu, 2020) (Filipiak, 2016) (Mohammad Mahbubi Ali et al., 2020)
Financial Self-Efficacy	Individuals' perceived ability to manage their finance	Confidence to manage own financial planning, borrow money from the bank, spending less for consumption.	(Mindra et al., 2017) (Noor et al., 2020)

3. Methodology

This study explores respondents' perceptions from five provinces in Indonesia towards the factors of Islamic financial inclusion (see Table 2). Previous studies measured financial inclusion in many ways, though the dimensions are effectively-identified quantitatively. It was agreed to individuals with Islamic or conventional bank accounts since the study considered different criteria of access to financial services, such as banking, rural banks, or cooperation/ *Baitul Maal wa Tamwil* (BMT). Therefore, individuals above 17 years were considered because it is the average age requirement for opening a Bank Account. Age groups were identified in the questionnaire as 17-30 years, 30-45 years, 46-55 years, and above 55. Furthermore, the research focused on both males and females. A structured questionnaire with closed-ended questions was used in data collection.

Table 2: Islamic Financial Inclusion Index in Five Provinces

No	Province	Islamic Inclusion Index
1	Gorontalo	0.022
2	Lampung	0.058
3	South Kalimantan	0.170
4	West Java	0.113
5	West Nusa Tenggara	0.173

Source: OJK 2019

Purposive sampling was employed in selecting 215 respondents. Usually, 100–150 individuals are considered the minimum sample size for conducting SEM (Tabachnick and Fidell, 2007). The items were measured using a structured questionnaire with a six-point Likert scale (1= strongly disagree; 2= disagree, 3=slightly disagree, 4= slightly agree, 5 = agree, 6= strongly agree). Most Likert scales have two positives, two negatives, and one neutral option, though this poses some issues. For instance, it offers respondents an easy-out, and they always choose the neutral option when they do not want to think. On the other hand, the six-point scale forces preference, providing better data (Taherdoost, 2019). In this case, the "slightly agree" and "slightly disagree" are averaged together when neutrality is needed. The demographic profile of the sample households in this research is presented in Table 3.

Table 3: Demographic Profile of respondents

No	Demographic Variable	Classification	Frequency	%
1	Gender	Male	141	65.58%
		Female	74	34.42%
		Total	215	100.00%
2	Marital Status	Married	141	65.58%
		Single	56	26.05%
		Divorce/Separated	7	3.26%
		Widowed	11	5.12%
		Total	215	100.00%
3	Age in years	17-30 years old	85	39.53%
		30-45 years old	80	37.21%
		45-55 years old	36	16.74%
		Upper 55 years old	14	6.51%
		Total	215	100.00%
4	Education Level	Illiterate	8	3.72%
		Primary School	31	14.42%
		Secondary School	74	34.42%
		Undergraduate	101	46.98%
		Total	215	100.00%
5	Occupation	Unemployment	20	9.30%
		Farmer or Fisher	14	6.51%
		Entrepreneur	40	18.60%
		Teacher	26	12.09%
		Housewife	32	14.88%
		General Employee	47	21.86%
		Government Employee	36	16.74%
		Total	215	100.00%
6	Income (monthly in Rupiahs)	Less than Rp 2.000.000	70	32.56%
		Between Rp 2.000.000 and Rp 4.000.000	72	33.49%
		Between Rp.4.000.000 and Rp 7.000.000	38	17.67%
		Rp 7.000.000 and above	35	16.28%
		Total	215	100%

Using Structural Equation Model (SEM) for testing, the hypothetical relationships were considered adequate. The proposed research model was developed based on the literature review and various empirical studies. The model considers four components in finding the relationship between Islamic financial inclusion and the research hypotheses. The four components include Trust (TR), Social Influence (SOI), Islamic Financial Literacy (IFL), and Financial Self-Efficacy (FSE). Data management and analysis were performed using SPSS 26. The proposed research assesses the relationships between the different constructs, including Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The following hypotheses were developed:

H1. Trust is a significant determinant of Islamic financial inclusion.
H2. Social influence is a significant determinant of Islamic financial inclusion.
H3. Islamic financial literacy is a significant determinant of Islamic financial inclusion.
H4. Financial self-efficacy is a significant determinant of Islamic financial inclusion.

4. Analysis and Discussion

4.1 Exploratory Factor Analysis (EFA)

The EFA method simplifies many inter-correlated measures to a few representative constructs or factors (Fabrigar and Wegener, 2011). This is essential in condensing variables with numerous questions simplifying them into better, insightful, and analyzable factors. The factor analysis method was used because the research considered several questions from various previous studies. In this study, factor analysis represents a set of 25 items unique to each variable. These underlying dimensions are factors by reducing the data set from interrelated variables to the smallest set of factors. Factor loading is significant when there are items loaded with more than a value of 0.50 (Hair et al., 2014).

Some items were removed from the list based on the rotated factor matrix due to their lower factor loading. The items found include FI_2 (Financial Inclusion), SOI_1 (Social Influence), TR_3 (Trust), IFL_3, IFL_4 (Islamic Financial Literacy), FSE_1 FSE_2 (Financial Self-Efficacy). Therefore, the original set of 25 items was reduced to 16 items, loaded under each factor (> 0.50). Moreover, the items were accepted for further analysis. The factor analysis appropriateness was tested using two important measures. The first measure is the Kaiser–Meyer–Olkin (KMO), which gives the overall sampling adequacy (Kaiser, 1974). The KMO is calculated for individual and multiple variables and represents the squared correlation to the squared partial correlation between variables.

The KMO statistic varies between 0 and 1. The sample adequacy value in this study is above the acceptable range of 0.92, which falls within the acceptable limit. On the other hand, the composite reliability (CR) of all latent constructs exceeds the proposed value of 0.5, implying that the measurement is good. The second measurement is Bartlett's test of sphericity, whose value was 4683.033, with a p-value significant at a 1% level. This measure indicates a highly significant correlation among the construct items in the survey. Table IV shows the KMO-Bartlett's test results. The KMO measure indicates that the sample size is adequate.

Table 4: Results of KMO and Bartlett's Test for Overall Sampling Adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.920
Bartlett's Test of Sphericity	Approx. Chi-Square	4683.033
	Df	300
	Sig.	.000

4.2 Reliability of the measurement items

The reliability of measurement items was evaluated by Cronbach's alpha value, which establishes internal consistency and reliability. Kline (2011) stated that the generally accepted value of 0.80 is appropriate for cognitive tests, such as intelligence, while a cut-off point of 0.70 is more sustainable for ability tests. All Cronbach's alpha in this study is greater than 0.80, which is reliable. The values of Cronbach's alpha are shown in Table 5.

Table 5: Factor Analysis and Reliability Test

No	Factor extracted	Item label	Item loading	% of variance	Cumulative variance	Cronbach Alpha
1	Islamic Financial Inclusion			74.889	74.889	0.930
		FI_6	.949			
		FI_5	.930			
		FI_4	.918			
		FI_3	.896			
		FI_2	.762			
		FI_1	.710			
2	Social Influence			66.252	66.252	0.864
		SOI_3	.912			
		SOI_5	.909			
		SOI_4	.863			
		SOI_1	.696			
		SOI_2	.652			
3	Trust			58.087	58.087	0.754
		TR_1	.836			
		TR_4	.830			
		TR_2	.685			
		TR_3	.684			
4	Islamic Financial Literacy			60.539	60.539	0.834
		IFL_1	.875			
		IFL_2	.817			
		IFL_3	.808			
		IFL_4	.735			
5	Financial Self Efficacy			69.431	69.431	0.870
		FSE_2	.949			
		FSE_1	.922			
		FSE_3	.904			
		FSE_5	.706			
		FSE_4	.638			

Source: Results of factor loading and Cronbach's Alpha

4.3 Confirmatory Factor Analysis (CFA)

CFA was conducted after identifying five factors through Exploratory Factor Analysis (EFA). The measurement model for all constructs were estimated based on factor loadings and variances, the covariance between the two factors, and measurement error variance. The CFA model analyses how the latent constructs generate the observed variables (factor loading) within the SEM framework considered the measurement model. Two specifications were used to assess the CFA model. First, model fit was measured by assessing the goodness-of-fit indices, while the second was observed by the model's validity and reliability.

4.4 The assessment of model fit indices for the measurement model

The goodness-of-fit indices for the measurement model are presented in Table 6. Moreover, various CFA statistical measures are used to determine how the model fits the present data using AMOS (version 26). Moreover, the initial CFA outputs in the item loading are interrelated to their latent constructs. According to Hair et al. (2014), factor loading should be above the common threshold value of 0.70, while the item loading between 0.40 and 0.70 should be removed from the scale.

The goodness-of-fit index (GFI), average goodness of fit (AGFI), comparative fit index (CFI), normed fit index (NFI), and Root Mean Square Error of Approximation (RMSEA) were used to assess the model's specifications. The results show that the value of GFI = 0.722, CFI = 0.855, all fit statistics values are above the threshold value of 0.90 and RMSEA = 0.105, which is more than the threshold value of 0.05. Therefore, the results substantiate that the measurement model is inadequately fitted with the data.

Table 6: Results of Goodness on Fit Indices Assessment for the CFA Model

Measure	Recommended value	Study model value	Observation
CMIN/DF	<3	3.367	The required level is inadequately
GFI	>0.9	0.722	The required level is inadequately
PGFI	>5	0.589	The required level is achieved
NFI	≥0.9	0. 807	The required level is inadequately
CFI	≥0.9	0. 855	Moderately the required level is achieved
PNFI	Between 0-1	0. 731	The required level is achieved
PCFI	Between 0-1	0. 754	The required level is achieved
RMSEA	≤ 0.08	0. 105	The required level is inadequately

Generated using Amos Software 26

4.5 Assessment of reliability and validity

The accuracy of the measurement model was assessed by the statistical examination of construct reliability, convergent validity, standardized factor loadings, critical ratio (t-values), composite reliability, and average variance extracted (AVE). The reliability and convergent validity results were shown in Table VI. In this case, the standardized factor loading examined the reliability. The factor loadings should be above the threshold value of 0.7. The results indicate that eleven factors are loading under the threshold value, indicators FI_1, FI_2 (Financial Inclusion), SOI_1, SOI_2, TR_2, TR_3(Trust), FSE_4, FSE_5 (Financial Self-Efficacy), IFL_1, IFL_4, and IFL_5 (Islamic Financial Literacy). Therefore, for re-estimation, these indicators were deleted to improve all latent constructs' composite reliability.

The value obtained in this research model ranged from 0.865 to 0.732, and the critical ratios (t-values) were above the minimum cut-off value of 1.96 ($p < 0.001$) and statistically significant at $p < 0.001$ (Hair et al., 2014). Validity is the ability of items to capture the underlying latent construct. Furthermore, two statistical tests were examined to assess the validity measures. The first test examined the CR values for seven constructs and obtained a threshold value of 0.7. The CR obtained showed the highest value of 0.957 and the lowest value of 0.884. This indicates the accuracy of internal consistency presented in Table 7.

Table 7: Results of Reliability and Validity of Measurement Model for All Constructs

		Results of measurement model (confirmatory analysis)			Results of validity and reliability test value	
Name of the constructs	Item label	Standardized factor loading	critical ratio (t value)	sig	CR	AVE
FI	FI_3	0.77	9.731	***	0.91118	0.7209
	FI_4	0.818	9.490	***		
	FI_5	0.828	9.386	***		
	FI_6	0.966	3.930	***		
SOI	SOI_3	0.881	7.213	***	0.9134	0.7788
	SOI_4	0.846	8.863	***		
	SOI_5	0.919	8.794	***		
TR	TR_1	0.641	8.770	***	0.7022	0.5449
	TR_4	0.824	7.561	***		
IFL	IFL_2	0.516	4.993	***	0.6838	0.5372
	IFL_3	0.899	7.970	***		
FSE	FSE_1	0.804	5.511	***	0.8328	0.6244
	FSE_2	0.816	7.580	***		
	FSE_3	0.749	10.916	***		

4.6 Discriminant validity

Discriminant validity is examined by the square root of AVE between two or more constructs compared to the respective inter-construct factor correlation. Diagonal values relate with the square root of AVE, and off-diagonal values represent the inter-construct correlation. The variance correlation results show that all the correlations between two latent constructs are less than their corresponding square root of AVE values. Moreover, the square root of AVE values exceeded the inter-correlation constructs. Therefore, the square root of AVE confirms a high discriminant validity for all the latent constructs. The discriminant validity results are presented in Table 8.

A measure used to assess Convergent Validity is the Average Variance Extracted (AVE). This is the variance in the indicators, or observed variables explained by the latent construct and varies from 0 to 1. An AVE of 0.50 or more indicates satisfactory Convergent Validity. Table VIII shows that AVE is more than or close to 0.50. Additionally, the Construct Reliability (CR) should be 0.7 or higher. Table VIII shows that CR is more than 0.7. This provides empirical support for the Convergent Validity of the scales.

Table 8: The Discriminant Validity

	FI	SOI	TR	IFKN	FSE
FI	0.849095				
SOI	0.478	0.882504			
TR	0.309	0.32	0.732959		
IFKN	0.216	0.227	0.169	0.790205	
FSE	0.255	0.252	0.192	0.131	0.738193

Note: Diagonal values in bold perceive square root of AVE, and off-diagonal values are inter-construct correlations

4.7 Structural Equation Modelling

The SEM was analyzed after assessing the measurement model. The structural model was developed for analyzing the strength of hypothesized relationships among the multiple latent constructs in the proposed research model (Hair et al., 2014). The SEM research tool combines factor and regression analysis, and it is useful in estimating the multiple and inter-related dependence in a single analysis. Moreover, the structural model is evaluated based on fit indices examined in the SEM model assessment. The overall structural model is depicted in Figure 2, while the goodness-of-fit indices for the structural model are presented in Table 9. The structural model adequacy statistically shows that the generated good-fit statistic with a ratio of x2 /df is 7.282, which is higher than the threshold value of 3. All other fit indices of absolute fit measures (GFI= 0.766, PGFI = 0.504, RMSEA= 0.171) and the incremental fit measures include (NFI = 0.834, CFI = 0.852,). All these fit indices should have attained their minimum cut-off values recommended by the previous studies (Byrne, 2016; Hair et al., 2014). This study indicates that the model does not fully meet the goodness of fit requirements, implying that the items on this structural model should be modified.

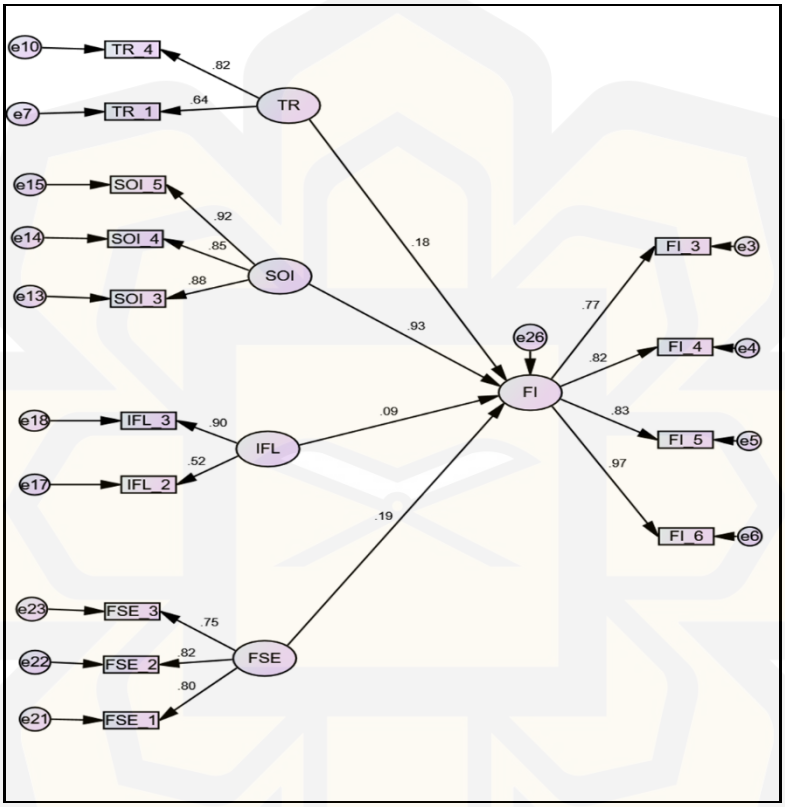
Table 9: Results of Goodness on Fit Indices Assessment for the CFA Model

Measure	Recommended value	Study model value	Observation
CMIN/DF	<3	7.282	The required level is inadequate
GFI	>0.9	.766	The required level is inadequate
PGFI	>5	.504	The required level is achieved
NFI	≥0.9	.834	The moderate required level is achieved
CFI	≥0.9	.852	The moderate required level is achieved
PNFI	Between 0-1	.632	The required level is achieved
PCFI	Between 0-1	.646	The required level is achieved
RMSEA	≤ 0.08	0.171	The required level is inadequate

4.8 The standardised regression path coefficient of the structural model

After assessing the model fit indices for the structural and measurement models, the structural model is further examined to obtain the hypothetical relationship between latent constructs. The SEM was developed based on 14 items in five latent constructs, including trust (TR), Islamic Financial Literacy (IFL), Social Influence (SOI), Financial Self Efficacy (FSE), and Financial Inclusion (FI). Figure 2 describes the significance of the regression coefficient for the latent constructs with their respective items. Also, the findings indicate that all the factor loading values were above the threshold value of 0.70, meaning that all items are able to measure the respective constructs.

Figure 2: Standardised path coefficients for the structural model



4.8 The hypothesis test results

Hypothetical relationships are examined after assessing the adequacy of CFA and structural models. The results of the regression path coefficients are depicted in Table 10. The hypothetical relationship is determined by assessing the regression weight estimates and critical ratios. Relation with four latent path coefficients was statistically significant, with critical ratios (t-values) greater than 1.96 significant at 0.001. moreover, the research results prove that hypotheses H1, H2, H3, and H4 are accepted and statistically significant because their respective p-values are significant at level 0.001.

The results show that trust, social influence, Islamic financial literacy, and financial self-efficacy were significant determinants of financial inclusion from the demand-side perspective. In the order of preference, social influence is the most significant determinant of financial inclusion.

5. Findings

The findings support the proposed research model presented in Figure 2 and the hypothetical relationships among the various dimensions. The standardized regression path coefficients and their significance levels indicate that Islamic financial literacy was a strong predictor of financial inclusion. It was followed by social influence, financial self-efficacy, and trust.

Table 10: The Standardised regression path coefficient and significance levels

Constructs	Code	Hypothesized relationship	Standardized regression weight (β)	The standard error (SE)	Critical ration (f-value)	P-value	Decision on hypothesis
Trust	TR	TR → FI	0.296	0.067	4.404	***	Accepted
Social Influence	SOI	SOI → FI	0.710	0.052	13.601	***	Accepted
Islamic Financial Literacy	IFL	IFL→ FI	0.129	0.053	2.406	.016	Accepted
Financial Self Efficacy	FSE	FSE→ FI	0.271	0.053	5.138	***	Accepted

The results show that social influence is the most important determinant of financial inclusion. Therefore, this evidence supports Maryam (2019) that social influence significantly contributed to Islamic financial inclusion than many other factors. The role of family, public figures, and informal leaders is to encourage Islamic financial institutions to support inclusion in Indonesia. Ali (2013) showed that financial self-efficacy has significantly contributed to the financial inclusion program. However, Ali (2013) placed financial self-efficacy as part of financial literacy.

This study shows that trust influences the participation of Indonesian Muslims in Islamic financial inclusion. Lack of trust reduced the performance of Islamic financial institutions in terms of institutional, professional management. These findings support Xu (2020) that trustworthy people are more likely to cooperate. Consequently, higher cooperation produces socially efficient outcomes amidst incomplete contracts and imperfect information.

These results are in line with Ali et al. (2019), which stated that financial literacy is a significant factor of Islamic financial inclusion in Indonesia. Financial literacy takes precedence over all the other factors among Indonesian Muslims. Therefore, Islamic financial inclusion could be accelerated by improving financial literacy. This study found that Islamic finance knowledge, financial institutions' products and services, and *halal* literacy are limited among Muslims in Indonesia (Albaity and Rahman, 2019; Antara et al., 2016).

6. Conclusion and Recommendation

This study provides a different perspective of Islamic financial inclusion, a demand-side approach with data from the participants. The results indicate that Islamic financial literacy, trust, financial self-efficacy, and social influence significantly affect Islamic financial inclusion in the five provinces in Indonesia. This implies that Islamic finance stakeholders in Indonesia should strengthen financial literacy, develop the financial self-efficacy of Muslim society, and build trust towards financial institutions. Therefore, this research model is useful in measuring the Islamic financial inclusion dimension in other provinces. Further research should identify other determinants of Islamic financial inclusion, such as socio-economics and financial technology literacy. Furthermore, the linkages between the determinants and economic growth or poverty alleviation could focus on research in other emerging economies.

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