MEASURING BARRIERS TO ACCESS FINANCIAL SERVICESIN EAST JAVA, INDONESIA: A CONFIRMATORY FACTOR ANALYSIS (CFA)

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ABSTRACT

Even though the banking industry is growing exponentially, they are still out of reach of the hardcore poor. The population under poverty remains financially excluded from the mainstream banking facilities. The aim of this paper is to empiricallyexamine the main factors that hinder customers to access financing from mainstream banking in Indonesia's province of East Java using confirmatory factor analysis (CFA). The paper employs primary data collected by self-administered questionnaires involving a sample of 243 respondents from five different regencies in East Java. A CFA techniques were used on the hypothesized model with five latent variables, namely religious, affordability, accessibility eligibility, availability factors.The result reveals that the goodness-of-fit indices are adequate with the hypothesized model using the fit indices criteria. Hence, it can be concluded that the five variables mentioned aboveare indeed factors that contribute to financial exclusion of microenterprenuers in mainstream banking in East Java, Indonesia. The result would be beneficial to practitioners and policymakers on factors that are important for the financial needs of the microenterprenuers which represent the highest portion of Micro Small and Medium Enterprises (MSMEs) in Indonesia.

Keywords: Financial services, Micro-Entrepreneurs, CFA, East Java, Indonesia

1. Introduction

World Bank in 2010[1] reported that 1.2 billion people live in poverty (corresponding to less 1.24 dollar / day) across the globe which is around 20.6 percent of the population. However, most of them live in Muslim majority countries which are having more than 50 percent of their population were below poverty line (Obaidullah and Khan, 2008). Meanwhile, in the context of South East Asian Countries, Indonesia plays important roles in field of economic and politic with existing of its huge human and physical resources. While in fact Indonesia is a rich country with its abundant natural resource, many Indonesian still live under poverty line.

Indonesia's statistical reported that approximately 28 million people live under the poverty which is about 4.8 million poor people live in East Java province (BPS, 2014). Since large number of population (15.42 percent of total Indonesia's population)[2] live in East Java, they contributed significantly to the national poverty level. The significant number of poor in the country including East Java relies heavily on informal sector for their livelihood. They are predominantly microenterprises which are mostly concentrated in agriculture and trading sectors. These real sector activities continue to be central of economic development strategy for the poor and their development has potential in providing income growth and poverty alleviation.

Due to this fact, numerous governmental programs provided to increase access to financial services through microfinance programs. Liberalization of financial regulations which is followed by establishment of People's Rural Bank (BPR – *Bank Perkreditan Rakyat*, specialized microfinance bank for serving the micro-enterprise in the rural area), and launching People's Business Credit Program (KUR-*Kredit Usaha Rakyat*, a special loan program to solve collateral issues faced by micro-enterprises) are among government programs to increase access to financing.

However, despite these efforts, there are still a large number of micro-entrepreneurs who have difficulties accessing credit (World Bank, 2011).Demirguc-Kunt et al. (2008) identified financial exclusion as main factors that may hinder growth and development of micro and small enterprises business. Agree with this, Beck and Demirguc-Kunt (2006) note that microenterprises in developing and developed countries experience greater financial and legal system restrictions. This is consistent with the previous study conducted across the globe by Ayyagari et al. (2003) who found that difficultly in financial access might can prevent SMEs from growing to their optimal size. This is similar to Indonesia situation where access to finance is still one of a major constraints that faced by Indonesia microenterprises (Tambunan, 2009).According to data of Bank Indonesia, in East Java, credit allocated to micro-small medium enterprises (MSMEs) is dominated by medium enterprises with around 65 percent of total credit, then followed by small enterprises with 29 percent while microenterprises only receive around 6 percent of total credit allocated to this segment (World Bank, 2011).This indicates that microenterprises have limited access to financial services which may prevent its output to reach maximum capacity.

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[1] See http://povertydata.worldbank.org/poverty/home/#

[2] According to BPS data, there are around 248 million Indonesia's population in 2013 while in East Java alone the number recorded around 38 million population

Such condition will affect the number of poor people particularly in East Java which remained the highest in the country although there is a declining poverty rate in recent years (World Bank, 2011). The question arise, what are factors behindthe people unable to access financing from financial services? In this context, the study thus aims to empirically examine the variables that hinder customersto access financing from mainstream banking in East Java province, Indonesia.

In relation to the above stated issues, identifying barrier access to finance is an important stepin effort of increasing financial inclusion that will impliedly lead to decrease poverty. Among the common features of barrier to access that echoed in previous literatures are affordability barrier (high service charge and interest rate), complicated eligibility (inflexible collateral and complicated document requirement), accessibility barrier (physical access), availability barrier or lack of financial product features (financial product provided not to all segments), and religious factor (Demirguc-Kunt et al., 2008). Meanwhile, the UK special task force classified financial exclusioninto supply side barrier such as non-availability of suitable products, physical barriers and non-eligibility on account of documentation issues, and demand side barrier such as lack of financial literacy and financial capability, psychological and cultural barriers (Shankar, 2013). A study in Nigeria conducted by Adewale et al. (2012) confirmed that eligibility and affordability (classified as involuntary financial exclusion barriers) and financial complacency, cultural capital and religious consideration (included as involuntary financial exclusion barriers) are perceived as hampering of microenterprenuers to access financial services. The effort of identifying barriers made is believed to have an influence on excluding of lower income group customers to access financing and services from mainstream banking.

This paper further elaborates on these barriersasfive factors using confirmatory factor analysis assessing the psychometric technique of the instrument for excluding customerfrom mainstream financial services in Indonesia.Previous studies on barrier to finance are limitedto descriptive study. Hence, specific objective of this study is to further examine the component identified from the descriptive study on barriers to access factor using a CFA to validate the instruments.

The rest of the paper proceeds as follows. Subsequent section sheds light on poverty and importance of MSMEs in Indonesia. Section three reviews on past studies on financing barrier factors. Expounding research method is conducted in section four. Research findings and discussions are illustrated in section four while the last section contains conclusion

1.1 Poverty in Indonesia

According to BPS data, there are around 28.60 million poor people living across the country, which corresponding to 11.5 percent of the populations. This number experienced slightly decrease compared to the previous year of September 2013, which recorded at 28.59 million or 11.66 percent (BPS, 2014:176). However, economists presumed skeptically on this decreasing trend, despite sustained economic growth[3]. World Bank reported that around 40 percent population lives around poverty line (World Bank, 2010) and more serious happened in terms of non-income poverty such as high malnutrition rates (28 percent of total children below age five in 2005), high illiteracy (25 percent in 2005) and low enrollment ratio while reaching to secondary education (65 percent) (BPS, 2005).

In terms of unemployment level, BPS data in 2013 recorded around 7.4 million unemployment in Indonesia, which is around 6.25 percent of total labour force (118.19 million) (BPS, 2014). Meanwhile, in East Java alone, there are around 871 thousand unemployment in 2013 which is around 4.3 percent of total economically active in East Java[4]. The province has the highest number of labor force in Indonesia, and can still be considered as a “labor surplus” with total number more than 19 million workers in 2013 (BPS, 2014). Despite there are an increase in both terms of number of labor force and number of working, but is not enough yet to decrease number of unemployment significantly. This is due to be low absorption of labor force while the numbers of labor force increases significantly. However, the number of employment rate climb up to 52 thousands as compared to the previous year. Again, availability of job opportunity is very limited and consequently much labor force cannot get a job and they would eventually be unemployment.

There are around 66 percent workers working in informal and this experiences an increase in line with limited of job opportunity provided by formal sectors. Meanwhile, employment structure is consistently unchanged in 2013. Agricultural sector (37 percent), trading sector (21 percent) and service sector (16 percent) and industry sector (14 percent) are the largest contribution to employment (BPS Jatim, 2014)[5].

Since the significant number of poor in Indonesia especially East Java depends heavily on informal sector, development of micro, small and medium enterprises (MSMEs) play an important role in translating into poverty reduction. These types of enterprises are dominant attributes in emerging countries (Cull et al., 2007). MSMEs contribute the income and employment with significant proportions of workers in most instances. It is undeniable that the role of MSMEs in poverty alleviation has been generally known since over decades ago. In the late 1990s when the financial crisis hit the country, the existences of MSMEs even could help the poor to recover from financial crisis. In this sense, the importance of the existence of MSMEs as a foundation of economy for capabilities enhancement and poverty alleviation is indisputable.

1.2 The importance of MSMEs in Indonesia

Table 1 below highlights how importance of MSMEs in sustaining and its contribution to the Indonesian national economy. There are more than 56.8 million units of MSMEs established which means around 99.9 percent of total number of enterprises

[3]http://www.eastasiaforum.org/2013/01/02/reaching-indonesias-poor-and-vulnerable/
[4]http://jatim.bps.go.id/linkTabelStatis/view/id/243
[5] http://jatim.bps.go.id/linkTabelStatis/view/id/258

dominated by MSMEs. The rest is large companies which account only 0.01 percent of the total number of enterprises. Among the MSMEs level, microenterprises seem to be more dominant compared to small and medium enterprises. It covers about 98.7 percent while small and medium enterprises represent only about 1.13 percent and 0.09 percent, respectively.

Table 1: The profile of MSMEs in 2013

Criteria	MSMEs		Employments		GDP		Export	
	In units	**Share (%)**	**Worker**	**Share (%)**	**IDR in Billion**	**Share (%)**	**IDR in billion**	**Share (%)**
Micro	57,189,393	98.77	104,624,466	88.90	3,326,564.8	36.90	15,989.5	1.38
Small	654,222	1.13	5,570,231	4.73	876,385.3	9.72	32,051.8	2.76
Medium	52,106	0.09	3,949,385	3.36	1,237,057.8	13.72	134,071.4	11.54
Large	5,066	0.01	3,537,162	3.01	3,574,943.3	39.66	979,214.8	84.32
Total	57,900,787		117,681,244		9,014,951.2		1,161,327.5	

Source: *KementerianKoperasidan UMKM* (2017), www.depkop.go.id, accessed April 2017

In terms of employment, MSMEs absorb over 114 million workers which mean about 97 percent of the labor force are working for MSMEs. Again among the MSMEs sector, microenterprises has the highest number of workers which account about 104 million and shares 88.90 percent of total number of MSMEs worker. Workforce in the small and medium enterprises recorded only about 4 percent and 3 percent, respectively. The table 1 also shows the role of MSMEs in the GDP and exports. While they contribute about 60 percent of GDP and around 16 percent for their exports, large enterprises show 40 percent and 84 percent for their exports. However, it does not mean that MSMEs productivity is higher than large enterprises but it is mostly due to the large number of MSMEs (Tambunan, 2009).

Statistics Indonesia showed about 6.8 percent economic growth in East Java had been recorded in the first semester of 2013 which was above national economic growth of 6.1 percent.[6] In this sense, MSMEs sector play important role in sustaining of economic growth in East Java. It contributes about 46.3 percent of total economic growth in East Java (Arief, 2013)[7].Microenterprises can absorb more than 1.7 million workers of total workforce which was around 2,910,368 people and the rest of workforce was absorbed by small and medium enterprises. This shows the importance of MSMEs sector as one of sustaining in economic growth particularly in East Java and generally in Indonesia.

1.3 Financial service in Indonesia

The Indonesian financial services sector is classified into three main subsectors, namely the banking industry, capital market and nonbank financial industry (NBFI). In terms of financial structure, banking industry is far more dominant among its counterpart financial service sector. The asset share of banking industry covers around 74 percent of the total, then followed by security companies (10 percent), multifinance companies (6 percent), investment funds (6 percent), pension funds (2 percent) and other NBFI funds (2 percent) (Indonesian Financial Services Authority- OJK, 2015).

Meanwhile, according to ADB (2015), total financial asset to GDP recorded around 103 percent and the number is relatively low compared to other ASEAN countries such as Philippines (194 pecent), Malaysia, Singapore, and Thailand (300 percent). This share of financial asset to GDP has continued to relatively constantsince 2009, showingthat slightpenetration of the financial sector has happened since the end of 2009.The reason of the small size of the overall financial sector are consistently low access to financial products and services, low financial literacy and sociocultural characteristics (Indonesian Financial Services Authority- OJK, 2015).

Concerning on access to formal financial products and services, Indonesia is relatively behind a number of other ASEAN countries. Such conditions were supported by the Household Survey conducted by Central Bank of Indonesia, which found that a portion of households in the country remain to depend on informal lenders as a source of funds (Indonesian Financial Services Authority- OJK, 2015)

2. Financing barrier factors

Literature indicates many factors that causes financing barriers written by scholars. Among the common features of financing barriers are affordability barrier (high service charge and interest rate), complicated eligibility (inflexible collateral and complicated document requirement), accessibility barrier (physical access), and availability barrier or lack of financial product features (financial product provided not to all segments) (Ghosh, 2013; Jha et al., 2014; Demirguc-Kunt et al., 2008; Hamada, 2010; Cull et al., 2007; Shankar, 2013;Ledgewood and Gibson, 2013). Besides that, the religious factor is also perceived as one of important factor to be considered as financing barriers factors. Some Muslim perceived that conventional financial products contain interest or usury (*riba*) which is indeed prohibited by Islamic financial principles (Karim et al., 2008). Therefore, they will not chose this type of product even-though they have access. A survey conducted in East Java by Bank Indonesia (2000), reported that 49 percent of the rural population considers interest prohibited and would chose free interest-based of Islamic

[6]http://kabargress.com/2013/10/01/umkm-menjadi-pilar-penting-pertumbuhan-ekonomi-jawa-timur/
[7]http://kabargress.com/2013/10/01/umkm-menjadi-pilar-penting-pertumbuhan-ekonomi-jawa-timur/

financial institutions once they are available (OIC Outlook Series, 2012). This is actually not a surprising result since the majority in East Java are Muslim which covers almost 96 percent of its population (BPS, 2010).

Affordable price is one of important factors to attract the consumers in involving financial institutions. There are some issues in relating to affordable price. Excessive transaction cost is one of major barriers to financial inclusion. From bank perspectives, dealing with very small transactions lead to high overhead cost. Moreover, if they operate in remote locations with few financial transactionswhich is costly and may be unfeasible (Jha et al., 2014). Hence, they have inclined to be more interested in serving for middle-to-high income groups. Another barrier to financial inclusion in relating to affordable prices is high minimum balance requirement. Minimum balances required by them to open accounts frequently are found to be too high, and also accounts are closed by some banks due to infrequent use (Shankar, 2013). Beside high minimum balance requirement, high interest rates is an important barrier. A survey reported by ICS (Investment Climate Surveys) in 2002, found that a large proportion of small enterprises were excluded from mainstream banks (Demirguc-Kunt et al., 2008). Of those who are excluded, 85 percent in China, 95 percent inRusia, and 96 percent in India (Demirguc-Kunt et al., 2008).

Complicated eligibility requirements are a major barrier of low income group to access financial services.Lack of proper documentation can create eligibility barriers especially for low income group in accessing financial institutions. For identification purposes, financial institution usually require several documents (such as ID, salary slip, land certificate, etc.) in offering the financial services to their customers.Beck, et al. (2008) assert that banks in many developing countries including Bangladesh, Cameroon, Chile, Nepal and Sierra Leone, require at least four documents in order to open the accounts, such as identification card, letter of recommendation, income slip, and valid address. Another barriers to financial inclusion in relating to eligibility is lack of collateral. There might are reluctance most micro-entrepreneurs in developing countries to apply loans as they are required to pledge their personal assets as collateral (Demirguc-Kunt et al., 2008). Armendariz and Morduch (2010) assert collateral with marketable assets can be used to reduce risk if borrower is default as it may be covered by secured assets.

Low accessibilityis a key barrier of low income group to access financial services.Physical access is might only one type of accessibility barrier that may exclude potential customers to access financing from commercial banking. Physical access is geographic distance to the nearest branch. It can be hindered by long distance to a bank outlet (Beck et al., 2007).While mainstream banks are close to poor neighbor, some poor people may encounter prejudices (which are being refused admission) to banking offices (Demirguc-Kunt et al., 2008).

Lack of availability of appropriate products and services is another important barrier to access financial services for low-income group and microenterprises (Demirguc-Kunt et al., 2008). Claessens(2005) notes that banks may have problems providing financial services to all households and firms given population density. It may be too costly to provide the physical infrastructure in rural areas. Demirguc-Kunt et al. (2008) argue that dealing with small transactions is also another reason behind reluctance of financial institutions in provision of product and services for the poor and small firms. On the other hand, for low income group and small firm, often limit their demand because of available financial services are not appropriate to their affordability.

Cultural and religious concerns may be a challenge to financial inclusion. They are considered as significant factor to shape individual’s attitude towards intention and preference behavior (DeLamater and Myers, 2011). In case of religious concerns for example, it is often as a reason for low income group to use financial service in the context of Middle East, North Africa and South Asia (Demirguc-Kunt, 2012).Even-though some certain low income groups have access but they chose not to use financial service because of religious grounds. In case of Muslim-majority country, some certain low income group perceives conventional financial products as unharmonious with the Islamic financial principles (Karim et al. 2008). This is because the product provided may contain any elements which are prohibited by Islam. These elements include as usury (*riba)*, gambling *(maisir)* and excessive ambiguity (g*harar)*.However, Figure 1 explains some factors that may hamper low income people to access financing from mainstream banking.

One of the banking studies that concern on financing barrier factor is conducted by Investment Climate Survey (ICS) in 2002 that highlighted about the reason of small firms do not use bank finance (Demirguc-Kunt et al., 2008). The survey revealed that most of the microenterprenuers do not need a financing. Besides that, they are excluded from bank finance because of high interest rate, strict collateral requirement and complicated application procedure. Meanwhile, in terms of reasons for not having a bank account where the survey conducted in the US and Mexico, found that expensive fee and high minimum balance requirement are the major reasons that cause people not to use financial services(Demirguc-Kunt et al., 2008). The other reasons reported are not comfortable with banks, inconvenience location and lack of documentations (Demirguc-Kunt et al., 2008).

Study by Jha et al. (2014) in various countries also discovered that ‘natural’ barrier which geographic distance to a bank are identified as one of the most important barriers for financial inclusion. However, in another study conducted by Demirguc-Kunt and Klapper (2012) revealed that lack of sufficient money to use is one the most common reasonfor people not having an account with the bank The is followed by services being too expensive, family member already has account, physical distance, lack of required documentation, lack of trust on bank, and religious reasons. Meanwhile, Ashraf and Ibrahim (2013) revealed that fear of getting into risk of loan is found as one of the most important barrier for accessing financial services in Bangladesh. The survey also found that spouse dislike as female head of household, insufficient resources and lack of knowledge are among other factors that hamper them to access financial services. Additionally, study by Sinclair et al. (2009) found that lack of financial product features and expensive fee are perceived as the most barrier factor for financial inclusion. The result also revealed that lack of information about financial issues and lack of financial skills faced by many people in UK are found as an important barrier for financial inclusion.

Meanwhile, studies on financing barriers of formal financial services in Indonesia remain limited. Previous study is restricted in scope of descriptive study. Survey conducted in East Java by Bank Indonesia (2005) for example which is descriptive in naturefound that access to finance for micro-small medium enterprises remain a problematic by some reasons including complicated document requirement, lack of collateral, and higher interest rates (World Bank, 2011). World Bank's Rural Investment Climate Assessment (RICA) survey in 2006 found that cost of credit is the most constraint of access to finance faced by micro and small enterprises in rural Indonesia. Other constraints such as collateral requirements, complexity and cost of application procedures, and lack of documentation are also identified (World Bank Report, 2010). With same technique analysis, an empirical study of Mahmud and Huda (2010) revealed that almost half of SMEs surveyed have no access to finance because transaction costs are so expensive, collateral requirements are insufficient and lack of good administration. However, the outcomes of these studies should be undertaken with caution particularly with regards to the generalization of findings. Even though, there are many studies about barrier access to finance, there is little study that utilizes a theoretical underpinning toward identifying the financial exclusion barriersusing a CFA to validate the instruments.

Theoretical framework

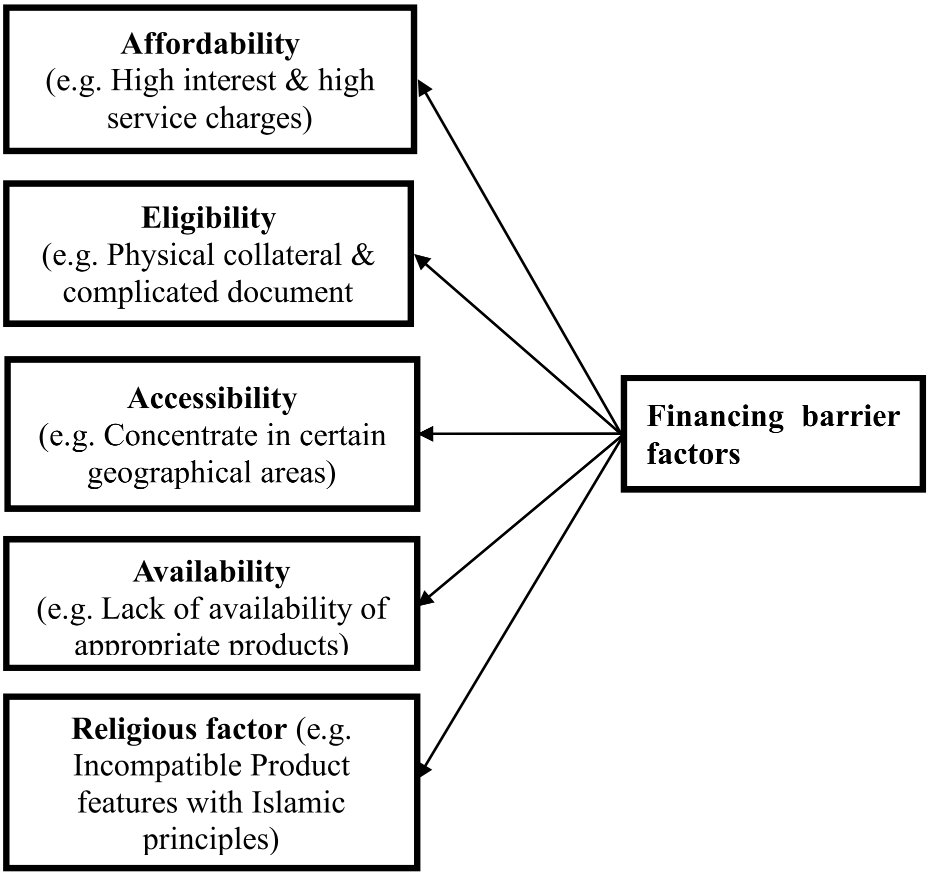

Figure 1 Financing barrier factors

3. Methodology

The data were collected by self-administered questionnaires distributed to respondents at five different regencies of East Java, namely Pasuruan, Malang, Kediri, Ponorogo, and Gresik. There are two main reasons for choosing East Java micro-entrepreneurs as the sample. First, East Java province has the second largest population in Indonesia contributing 15.4 percent of the nation's total population (BPS, 2010)[8]. Since a large number of population live in East Java, they contributed significantly to the national poverty level. Second, as significant number of poor in East Java depends heavily on informal sector (BPS-East Java, 2014), development of micro, small and medium enterprises (MSMEs) play an important role in translating into poverty reduction.

The underlying variable structure of a 24 items associatedwith the measurement of barrier factors were assessed. The measurement of barrier factors comprise five underlying factors namely affordability, eligibility, accessibility, availability and

[8] http://jatim.bps.go.id/4dm!n/pdf_publikasi/Penduduk-Jawa-Timur-Hasil-SP-2010.pdf

religious factor. The items consisting underlying subscale was adapted and modified as required for the study from an existing measure of barrier to access by Demirguc-Kunt et al. (2008) and Demirguc-Kunt&Klapper (2012).

The research respondent from each regencies were selected by a convenience sampling. In filling-up of the questionnaire, each of respondents took about 15-20 minutes to complete. Data collection process was started in May 2016 and completed in August 2016.In terms of sampling size, from a total of 450 questionnaires distributed, 300 were returned, out of which 243 were usable, thereby indicating a response rate of about 54 percent, which is considered sufficiently large for statistical reliability and generalizability (Tabachnick and Fidell, 1996).

4. Findings

The demographic distribution of the respondents is presented in Table 2 below.

Table 2 Distribution of respondents (n = 243)

		Valid percent (%)
Gender	Male	55.6
	Female	44.4
Age Group	Below 20	3.3
	20-29	39.1
	30-39	36.6
	40 & above	21
Marital Status	Single	18.1
	Married	77.0
	Widowed	4.5
	Divorced	0.4
Religious Background	Islam	100
Educational Background	None	1.6
	Primary School	11.5
	Junior High School	16.9
	Senior High School	37.0
	Diploma	8.6
	Bachelor Degree	20.6
	Master	3.8
Microenterprises as main source of income	Yes	47.3
	No	52.7
Other sources of income	Civil servant	3.3
	Employee in private company	
	Employee in BUMN	37.0
	Lecturer/teacher	1.6
	Professional such as doctor, lawyer, etc	5.3
	Student	1.6
	Housewives	4.1
	Others	13.2
		33.9

The responses obtained were analyzedby using SPSS and AMOS software. This is used to perform factor analysis and confirmatory factor analysis on the response to financing barrier factor criteria.

4.1Exploratory Factor Analysis (EFA)

The Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) shows an acceptable value of 0.759and the Bartlett's Test of sphericity also indicated statistical significance (0.000). This showed the factorability of the correlation matrix. On these basis, factor analysis proceeds to perform principal component analysis (PCA) and varimax rotation with Kaiser Normalization. Varimax orthogonal rotation is used in this studyas the study seeks to make sure that the factors provided will be unrelated to each other. Variables which most highly correlated with the factors are grouped together and arranged in descending order according to the size of their correlations.

After PCA, withvarimax rotation is done, the results indicated a cross and split loading at some items. Thus, the iteration is required by ignoring affected item. After removing affected items in the next iteration, the Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) indicated an acceptable value of 0.748 and the Bartlett's Test of Sphericityappears with statistical significance (0.000). As presented in Table 3 the rotated solution shows the presence of five factors with a strong number loadings and eigenvalue indicators are within the guidelines as recommended by (Hair et al., 2010). The communality indices are acceptable with ranging between 0.50 and 0.84.The results also indicate that five latent factors have been successfully extracted on 18 items with eigenvalues greater than 1; explaining 64.6 percent of the total variance. Factor 1, 2 and 3 have four significant loading while both factor 4 and 5 have three respectively. The factor loadings are between 0.63 and 0.89.

As presented in Table 3, first factor comprises fourfollowing items; 'providing financial product that contains *Maysir',* 'providing financial product that contains *Gharar',* offering financing with interest (*Riba*), and 'no fairness of the product'. The nature of the highly loaded variables on this factor suggests that it can be named as religious factor. This factor contributes around 24 percent of the reasons for excluding of conventional banking services. Since factor 1 has the highest eigenvalue and variance, it represents the most barrier factor that has influenced micro-entrepreneurs to access financing from banking services.

Table 3 Factor analysis for barrier factor criteria

	Factor				
	1	2	3	4	5
Variables	**Religious**	**Affordability**	**Accessibility**	**Eligi-bilty**	**Availability**
Providing financial product that contains *Maysir*	.890				
Providing financial product that contains *Gharar*	.868				
Offering financing with interest (*Riba*)	.721				
No fairness of the product	.637				
Imposing fixed transaction costs and annual fees		.830			
Imposing fixed fees and high cost of opening and and maintaining account		.824			
Imposing high interest rate		.709			
Requiring a minimum amount to open an account		.620			
Having prejudice (being refused admission to bank offices)			.765		
Distance from bank branch			.722		
Not having knowledge about banking procedures			.694		
Having no ATM outlet in nearby area			.633		
Requiring collateral (e.g. Valuable assets such motorcycle etc.)				.835	
Requiring complicated documentation				.827	
Age discrimination (e.g. young people below 21 years excluded from financial services)				.741	
Not providing loan for small amount					.823
Not providing payment services for small amount					.741
Insufficient product for low income group					.672
Eigenvalue	*4.410*	*2.531*	*2.039*	*1.403*	*1,259*
Percent of variance	*24.499*	*14.063*	*11.329*	*7.797*	*6.995*
Cumulative (%)	*24.499*	*38.562*	*49.891*	*57.688*	*64.682*

The second factor defining barrier factor criteria relates to 'imposing fixed transaction costs and annual fees', 'imposing fixed fees and high cost of opening and maintaining account', 'imposing high interest rate', and 'requiring a minimum amount to open an account'. For this, the suggested term is 'affordability barrier' factor. The results of the factor analysis ranked as the second important factor behind the religious factor, since it explains 14 percent of the total variance for the variables in the data set. Third factor defining barrier factor criteria with regards to 'having prejudice (being refused admission to bank offices)', 'distance from bank branch', 'not having knowledge about banking procedures', and 'having no ATM outlet in nearby area'. The nature of the highly loaded variables on this factor suggests that it can be labelled as 'accessibility barrier' factors. This factor contributes around 11.32 percent of the reasons for excluding of banking services. The results of the factor analysis as presented in Table 3showed that thevariables which have loadings on the fourth factor are 'requiring collateral (e.g. valuable assets such motorcycle etc.)', 'requiring complicated documentation', and 'age discrimination (e.g. young people below 21 years excluded from financial services)'. The combination of these variables can be grouped together under the category of 'eligibility barrier' factor. Last factor defining barrier factor criteria relates to 'not providing loan for small amount', 'not providing payment services for small amount', and 'insufficient product for low income group'. For this, the term is 'availability barrier' factor. This factor contributes around 7 percent of the reasons for excluding of banking services.

4.2 Reliability and Validity of Measurement model

Both reliability and validity are also tested. While reliability used to test internal consistency of an instrument, validity used to check the extent to which a scale or instrument measures the intended construct. Following table illustrates briefly reliability and validity used in the present study.

Table 4 Reliability and Validity

Constructs	**Cronbach's Alpha**	**CR**	**AVE**	**MSV**
Religious factor	0.834	0.840	0.656	0.147
Affordability	0.785	0.702	0.543	0.245

Accessibility	0.675	0.703	0.550	0.251
Eligibility	0.779	0.783	0.548	0.251
Availability	0.680	0.682	0.417	0.245
Statistics			**Suggested**	
Composite Reliability (CR)			>0.6	
Average Variance Extracted (AVE)			>0.5	
Convergent Validity			AVE>0.5	
Discriminant Validity			MSV<AVE	

As presented in above Table 4 indicates that all constructs have attained the threshold value for CR above 0.6 and AVE above 0.5 except for the AVE of availability which is 0.41. Regarding this, Bettencourt (2004) affirms that convergent validity of the construct still can be kept even when the value of AVE is less than required level 0.5 as long as composite reliability is higher than 0.6, which is considered adequate.

4.3Confirmatory Factor Analysis

After that, the CFA is tested. The CFA tested through overall measurement model combines entire of the constructs extracted from PCA. The choice of CFA appeared from its relevance to accommodate the multiple latent variables. Moreover, CFA is the most applicable technique used to measures the instruments that have developed, and their factor structures validated (Byrne, 2010), suited well with the objective of this study. Among previous studies that applied CFA as the most statistical technique are Milfont and Duckit (2004), Adewale et al. (2012) and Mustapha and Bolaji (2015)

The following figure is overall modified measurement model comprise five access barrier factors along with the relevant items or observed variables. The latent variables are religious factor (SHA) (3 items), affordability (AFF) (4 items), accessibility (ACC) (2 items), eligibility (ELI) (3items), and availability (AVL) (3items).

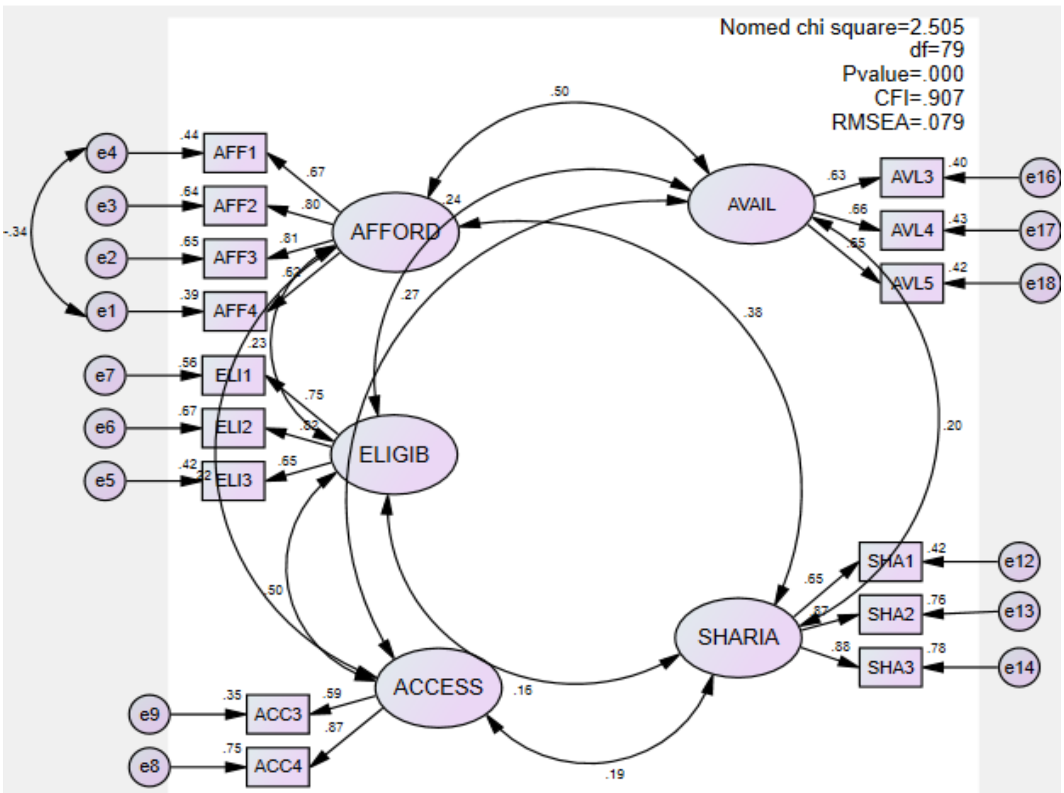

Figure 2 Overall modified measurement model

An initial attempts, the result output for measurement model fit indices are relatively good. The Normed Chi-Square ($\chi2/df$) shows 2.791 which is below the required value of less than 5. The value of CFI, the incremental fit index appears close to 0.9, and the value of RMSEA, the badness-of-fit-index points out 0.86 which is less than 0.1.

However, further modification is needed in order to improve a certain fit indices of measurement model especially CFI which is currently below the required level of equal to or more than 0.9 (Hair et al., 2010) and RMSEA which is above required level of less than 0.8 (Browne &Cudeck, 1993). The modification is carried out based on the value of modification indices (MI) as viewed in the AMOS output and factor loadings of indicators of the individual constructs. After checking in table of modification indices, it has been found that MI value between e1 and e4 is greater than 15. By applying those items with inter-correlations (Byrne, 2010), fit indices of the measurement model shows an improvement despite the required level of fitness in particular CFI is not achieved. Therefore, next modification by looking at factor loading is required in order to improve the model fit. For this purpose, indicators with factor loading lower than 0.6 were removed. Thus, after some items have been deleted, the items have been reduced from 24 to 15 items, the model fit has been improved with meeting the threshold values as depicted in the modified overall measurement model in Figure 2. Fit indices of the model is realized with RMSEA = 0.79, CFI = 0.907, and $\chi 2$/df = 2.505, which meet the requirement of the model fit.

5. Discussion of findings

The objective of this paper is to empirically examine the main factors that hinder micro entrepreneurs to access financing from mainstream banking in Indonesia province of East Java using confirmatory factor analysis (CFA) to validate the constructs. The results obtained from CFA confirmed that the hypothesis of the five factors, namely religious factor, affordability, accessibility, eligibility and availability are accepted. In this regards, the study indicated that religious factorsis found to have the most important barrier factor to access financing in banking services. This is generally not a surprising result since the majority in East Java are Muslim which covers almost 96 percent of its population (BPS, 2010). This finding is consistent with earlier financing barrier studies like Demirguc-Kunt et al. (2008) who revealed that some certain low income groups have access but they chose not to use financial service because of religious grounds (Demirguc-Kunt et al., 2008).

Furthermore, affordability barrier was also found to be a factor for financial exclusion. This confirms the findings in Demirguc-Kunt et al (2008) that found that small firms are excluded from bank finance because of high interest rate, expensive fee and high minimum balance requirement. In fact, World Bank (2010) reported that 40 percent of the poor and micro entrepreneurs in Indonesia are ruled out from financial services because of affordability factors. Another findingis that the having prejudice towards bank and long distance from bank branch, no knowledge of bank providing ATM are also factor that contribute to exclusion from banking services. This is in line with the finding of Jha et al. (2014) study which discovered that geographic distance to a bank are identified as one of the most important barriers for financial inclusion. The other barriers identified are eligibility and availability. This result is somehow consistent with the previous barrier access to finance studies. BRI's MASS[9] Survey in 2002 found that lack of documentation appears as main constraints faced by the poor in accessing financing from banking services in Indonesia (World Bank, 2010).Meanwhile, this study also indicated that lack of availability of appropriate products and services is another important barrier to access financial services for low-income group and microenterprises. The reasons are dealing with small transaction that creates high transaction cost as a result reluctance of financial institutions in provision of product and services for the poor and small firms.

6. Conclusion, implication and limitation

The study analysis was explored to achieve a valid CFA with model fit with the data and also supporting the theoretical underpinning of the model. The test of the CFA implies that five variable solutions i.e. religious factor, affordability, accessibility, eligibility and availabilitywere the best fit for measuring barrier access to finance construct.

While the theory implication would enhance the body of knowledge, the practical implication of this study is to empirically validate the factors of barrier to access which are expected applicable in the context of Indonesian micro-entrepreneurs. The validated indicators can further be used as an evaluative measure to examine the extent to whichfactors that may hinder microenterprenuers to access finance and services from mainstream financial institutions in terms of five factors. Significantly, the identified variables of barrier access to finance would allow the practitioner and policy makers to know the factors that exclude micro-entrepreneurs from accessing of mainstream financial services in Indonesia generally and particularly East Java.

One limitation of this study is a number of sample size of 243 respondents and sampling frame which was restricted to microenterprenuers in East Java province. Hence, the result of this study may be different if it is conducted at other provinces and therefore cannot be generalized for the whole of Indonesia.

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