

# Islamic Microfinance Branchless Banking Model in Indonesia

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**Abstract:** ICT has been recently developed into a digital sustainable collaborative networking (DCN) platform, and it is expected to be capable of demonstrating the building of social and economic welfare, particularly in crafting innovations to facilitate marginal society. This research attempts to develop an innovative platform of an empirical ICT application a branchless banking form based on ICT Model. The application of Branchless banking model is expected to address the poverty problem which is significantly high in Indonesia. Indonesia is known for its heterogeneous values in terms of its areas, ethics, traditions, customs, communities, and local wisdom. The newly introduced application of a mobile payment system is parallel to the vision, and mission upheld by the government. Currently, most literature and practices are just partial. The community model based on Islamic microfinance and Cooperatives is neglected. Therefore, this research aims to design branchless banking in terms of financial inclusion involving Islamic microfinance and Cooperatives. Furthermore, this paper also attempts to test to what extent the proposed model is viable in the current system. This study employs a qualitative approach by conducting an interview with the stakeholders and a deductive method is used to explore and design the proposed model. The finding exhibit that branchless banking based on an Islamic microfinance and a Cooperative model is more flexible and easily acceptable while crafting a deal with Indonesian. In addition, the proposed model is viable in the current system. By implementing this model, the economy can be strengthened toward national unity and a welfare state.

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**Keywords:** Islamic Microfinance, Cooperatives, Branchless Banking, Financial Inclusion, ICT, Islamic finance

**Abstrak:** ICT telah berkembang ke arah tahapan digital collaborative network (DCN). Pada tahap ini ianya diharapkan mampu menunjukkan peranannya dalam mewujudkan kesejahteraan sosial dan ekonomi, utamanya untuk membantu kalangan miskin. Kajian ini mencuba untuk mengembangkan sebuah model ICT empiris yang inovatif dalam bentuk bank tanpa cawangan (branchless banking). Penerapan model bank tanpa cawangan (branchless banking) diharapkan mampu mengatasi masalah kemiskinan yang masih tinggi di negeri ini. Indonesia dikenali sebagai kawasan yang mempunyai nilai-nilai yang sangat beragama, tradisi adat istiadat, etika, komunitas, kearifan setempat, dan wilayah yang membentang luas. Penerapan model sistem pembayaran mudah alih ini selari dengan visi, misi, dan keinginan kerajaan Indonesia, namun kajian yang ada kebanyakan masih bersifat separa, termasuk model yang melibatkan kewangan mikro Islam dan Koperasi belum dikaji. Oleh sebab itu, penelitian ini bertujuan untuk merancang bank tanpa cawangan dalam kerangka kewangan inklusif yang melibatkan kewangan mikro Islam dan Koperasi. Selanjutnya, tulisan ini juga mencuba untuk menguji sejauh mana model yang diusulkan dapat berlaku dalam sistem semasa. Kajian ini menggunakan pendekatan kualitatif dengan melakukan wawancara dengan berbagai pihak yang berkepentingan dan metodologi deduktif digunakan untuk mengeksplorasi dan merancang model yang diusulkan. Temuan menunjukkan bahawa model bank tanpa cawangan yang melibatkan kewangan mikro Islam dan Koperasi lebih fleksibel dan mudah diterima oleh masyarakat Indonesia pada umumnya. Selain itu, model yang diusulkan adalah layak dan dapat berlaku pada sistem semasa. Dengan menerapkan model ini, perekonomian dapat lebih kuat menuju kepada persatuan nasional dan negara yang sejahtera.

**Kata kunci:** Kewangan Mikro Islam, Koperasi, Bank tanpa Cawangan, Kewangan Inklusif, ICT, kewangan Islam.

## 1. Background

Branchless banking (BB) is a part of the financial inclusion (FI) method defined as a condition in which all people have access to the all financial services system, especially unbanked people in an efficient way backed by ICT in terms of branchless banking. ICT has been recently developed into a digital sustainable collaborative networking (DCN) stage (Olivia, 2013). In that stage, social and economic welfare can be supported by

its capability, particularly in branchless banking innovations to serve a marginal society.

Indonesia has declared to adopt the BB method to deal with the poverty issues as reflected by the high poverty rate at 43% (Tempo, 2014) with a high number of people financially excluded at 68% (World Bank Annual Report, 2013). Vision and mission have been established by the Indonesian President (SBY, 2014) and then operationalized by the central bank governor. Many studies were established, i.e., Santoso (2015), Yesi and Kasmiasi (2013), and Azka (2016) to adopt the appropriate model; however, it is not easy to find out if the FI model in the form of BB since Indonesia is a unique potential archipelagic state which consists of 13,000 islands with thousands of kilometres between them from edge to edge, and requires days to reach the closest town of the marginalized area. Meanwhile, from the cultural perspective, Indonesia covers more than 500 cultures and traditions along with great religious beliefs. These conditions add more obstacles for banks to bring their branches nearer to the poor, since to build a branch itself is very expensive (Bank Indonesia, 2013b).

This study attempts to address this issue. Then the question is what method is to be used in Indonesia because most of the existing global literatures on BB development and financial inclusion are top down and none of them concerns local values that grow in the community: for example, beliefs customs, traditional cultural institutions, and Cooperative value. The study aims to develop financial inclusion model based on specific communities, particularly Islamic microfinance and Cooperatives in Indonesia. Islamic microfinance and Cooperatives have approved the appropriate method to empower society. These institutions have a wide network in the rural areas and are being used as a tool for assisting marginalized people (Kartiko, 2015).

The objective of the study is to design the appropriate BB in the form of a financial inclusion model in Indonesia by involving Islamic microfinance and Cooperatives to address special characteristics of Indonesia in terms of religions, communities, and belief. In This research also involves the role of information and communication technology (ICT) in the form of mobile phones, provides, and infrastructures for supporting the program. Besides, the study examines to what extent the proposed model is viable in the current system.

## **2. Branchless Banking: Definition in the Financial Inclusion (FI) Framework**

Branchless banking (BB) is defined as a mechanism that allows customers to deposit, withdraw and transact their funds in a secure and efficient manner through non-branch customer channels — such as mobile phones, terminals or agents. It is the delivery of financial services outside conventional bank branches using ICT and nonbank retail agents, for example, over card-based networks or with mobile phones. In addition, it has two important benefits: It serves convenience to those who are fully banked by offering greater access to account information and bank services. It also allows for the greater inclusion of more consumer segments by leveraging technology that brings financial services to unbanked people, traditionally, and no financial institutions access (Malek, 2015). BB is part of the financial inclusion concept that has the main objective for removing the obstacles for the poor/unbanked people to access financial services backed by ICT (Chiba, 2009).

Branchless banking as a global movement pioneered by Bill Gates is expected to offer solutions to address poverty problem. Several countries had successfully adopted the financial inclusion system based on BB supported by digital and mobile BB, such as India, Mexico, Kenya, Uganda, Tanzania, and Brazil. One of the most well-known reliable BB systems is M-PESA which is widely recognized in Africa ([www.mpesai.com/\\_M\\_pesai/239.html](http://www.mpesai.com/_M_pesai/239.html).)

The FI program is aimed at ensuring sustainable growth and giving benefits to economic and social welfare. ICT growth is currently giving us the chance to provide faster and better financial services to most people. However, there is no guidance on how to implement it in the country, as its difference from other countries require a great deal of thought.

### *2.1 Current Research and Drawback*

1. Karlan and Zinman (2007) proved that microfinance provides strong evidence in supporting the positive role of microfinance in handling poverty issues. Additionally, Jayati (2013) has done a study in a recent literature on microfinance in developing countries and a critical assessment of its effectiveness in India. The study revealed that microfinance has a significant role in assisting the poor and of micro small and medium enterprises.

2. Chiba (2009) introduced four key pillars for FI: financial literacy, non-financial sector, microfinance and public sector. The role of microfinance and public sector support are regarded as a prerequisite to economy growth and poverty abolition; financial sector served the unbanked marginalized people.
3. Ahmed (2011) found that BB encouraged increasing business transactions on poor people. Meanwhile, the role of ICT and mobile phones has contributed to economic growth in African countries (Mihasonirina, 2012).
4. Sankaramuthukumar et.al. (2012) highlighted that BB improved four critical elements: convenience, reliability, flexibility and continuity in Africa.
5. The current mobile FI in the form of BB in Indonesia was offered by some researcher such as Kodim (2012), Prasetyo (2010), Satria et al. (2011). They voiced to perform financial inclusion based on a mobile phone to deal with the poverty problem. However, their proposed models do not prepare the detailed program, and there are no deep explanations on their framework in terms of work mechanism and prototype.

Besides , financial inclusion had been initiated in 112 countries overseas, 14 of them were able to reach the maturity stages. These countries, however, used partial approaches as depicted in Table 1 below. There are some issues which had not been addressed in the current studies as most of them were focused on partial FI pillars. Besides , the existing literature does not match the Indonesian-specific criteria of heterogeneity, wider areas, cultures, distance, values, institutions and traditional customs, that are populated by more than 300 million people that need to be explored in more details.

*Table 1. Development of Financial Inclusion and Branchless Banking in Several Countries*

<b>Country</b>	<b>The Involved Sectors</b>	<b>Implementation Strategy</b>	<b>Using ICT</b>
Brazil	Private and Formal financial institutions, Communities	Remote and under serviced areas can receive improved access to financial services through private bank collaboration. Partnership between private banks and the post office is one effective way to raise existing infrastructure.	No

Country	The Involved Sectors	Implementation Strategy	Using ICT
China	NGO , Interventions of NGOs active in financial literacy	Financial literacy in support of effective and efficient microfinance. NGOs to be effective partners for financial literacy and microfinance.	No
Guatemala, Continental, Banrural, Mexico	Private formal financial institution, ICT Provider, Financial sector, Public sector	Commercial banks offer microfinance services to the unbanked. CEMEX as a private sector non-financial firm assisting the FI through a savings and credit scheme for the poor and unbanked people	Yes
India	Public sector, Cooperatives, Microfinance, ICT	The public sector provides the overall framework, FI policy/product guidance from the central bank.	Yes
Kenya, South Africa, Ghana, Nigeria, Maldives, Columbia, Mongolia, South Africa.	Formal financial institution, ICT Provider, Public sector, Private sectors, Financial and non- Financial firms, ICT provider.	Microfinance services and Commercial bank promote FI. Microfinance and financial services to promote entrepreneurs, and serve the 'unbanked' The role of IFC, World Bank Group, to support FI. Technology – e.g., mobile phones, prepaid cards and electronic kiosks – offers a viable medium for FI. Guidance from the public sector, the formal financial sector developed a Financial Sector Charter (FSC) for FI to serve the poor.	Yes
Mexico	Public sector and Private Sector	Bank accounts for the unbanked; funds transfer service for remittances from the US to Mexico's unbanked. This strategy led by central banks to address FI.	No
Philippines	Private-Non- financial Firm, ICT provider, Central Bank, Financial Sector	The Globe Telecom Co., mobile telephone providers offer mobile banking services (bill payment, 'mobile wallets', non-bank accounts and cash transfers) – to the banked and unbanked. Telecommunication service firms are providing cost-effective and efficient financial services to the unbanked, including those in remote areas.	Yes

Country	The Involved Sectors	Implementation Strategy	Using ICT
Trinidad and Tobago (T&T)	Public sector, Financial literacy, NGO's	The public sector leads Financial literacy with the central bank as the coordinating agency and with the support of other key stakeholders to support FI.	No

Sources: Chiba (2008), (2009), and Jayati (2013).

## 2.2 Barriers and Challenges for Branchless Banking and Financial Inclusion Development

There are several common themes emerging as the main barriers to develop the FI model worldwide (Madhur et al., 2014):

(i) *Governance failures.* The governance failure indicators which affect FI development are rule of law, regulatory quality, government effectiveness, control of corruption and political stability. Minimizing corruption and ensuring a stable political environment may lead to better progress towards addressing the key barriers to FI.

(ii) *Restrictive regulations.* The regulations have important roles – to protect consumers and to act as prudential regulators who principally are concerned with maintaining the integrity of individual institutions and financial systems as a whole. In other words, they want to limit exploitation of the poor through unfair contracts, fraud, excessive prices and interest rates. In this regard, Kaddu (2014) stated that national and international regulatory policies are often cited as further barriers to broader formal FI for the world's poorest people.

(iii) *Natural barriers.* This factor includes geographic distance, heterogeneity, difficulties and cost. Religious concerns over interest payments can also be a challenge to FI to a low proportion of adults that are 'banked people' (Demirguc-Kunt, 2012).

(iv) *Lack of financial infrastructure.* It involves borrower-lender information access, public credit registries, and private credit bureaus that can be used by governments to play a key role. Getting credit strength of legal rights, depth of credit information, public registry coverage, and private bureau coverage are also considered factors that influence FI development (Ascarya, 2015).

(v) *Products features*. Innovation and creation is the key to perform attractive financial products. Financial products need to be tailored to meet the needs of the poor. Products must be affordable, available within reasonable physical proximity and regulated to protect consumers, differentiation, segmentation, and design features strategy. These are important to have a better financial product. Lack of Financial literacy among the poorer segments also represents a significant barrier to the access and proper use of formal financial services (Harjono, 2015).

(vi) *Culture and traditions*. This barrier is considered the biggest barriers faced by the FI based on community. However, these obstacles also represent greater opportunities Santoso (2015), (Juan et.al. 2014). Moreover, Shankar (2013) stated that psychological and cultural barriers also cause negative FI in India, and the physical barrier is caused by the distance to bank branch or automated teller machine (ATM).

Six constraints of the BB in the form of an FI development were found. , is the criteria for evaluating the proposed model.

### *2.3 Alliance Financial Inclusion (AFI) Versus Community FI Model Debate to Implement Financial Inclusion in Indonesia*

The Indonesian government has proposed a global model FI under Alliance Financial Inclusion (AFI). Meanwhile, some Islamic microfinance activist proposed community FI based on local value and culture. Therefore, there are various arguments which are either in support of or against the AFI program. The supporting view comes from conventional microcredit activists, while the contra argument comes from Islamic microfinance activist such *Baitul Maal wa Tanwil (BMT)*, Cooperatives, and *Kopontren* (Islamic boarding school Cooperative).

The underlying objections in the AFI model has been raised the under supervision of the World Bank in cooperation with IMF sometime before to contribute to this great problem, i.e., that which Indonesia suffered during the crisis in 1998. As a result, they have some objections and hesitation on the silent - agenda in this program (Awalyl, 2014). These objections can be divided into three aspects: vision-mission, business agenda, and Islamic perspectives. For instance, Mr. Awalyl Rizky, the Vice President of the Indonesian BMT Association and Kartiko *Wibowo* as Central Java President of Local Micro Finance



agency argued that FI has developed under AFI and has ten differences with Indonesian values:

First, the AFI model has a different agenda compared to the Islamic microcredit mission that focuses on brotherhood, cooperation, and assistantship. On the contrary, the AFI has a silent agenda to build a global networking toward microfinance liberalism without any value, in other words based on materialism which is opposite to Islamic value (Kartiko, 2015). Moreover, the dissenting argument is supported by the facts: there are several evidences that most World Bank's assistance and involvement in Indonesia do not meet the welfare issue. Instead, some of the World Bank's programs cause difficulties . If it is true, it will cause the *ummah* to suffer materially well spiritually . In addition, in terms of principles, Islamic and conventional FI is different. Islamic value is based on gift value, and is not based on debt principles. If a person is not able to give, this person is encouraged to save little by little after that be lenders. While, in the common FI program, the sense is to focus on borrowing from FI (Harjono S, 2014).

Second, Credit Cooperatives and Credit Units (*Koperasi Simpan Pinjam & Unit Simpan Pinjam (KSP/USP)*) are the financial server to Micro Small and Medium Enterprises (MSMEs) which is strategic for the economy of the *ummah*. It is developed by mutual assistantship principles and inclusion among them. They include 108,000 KSP/USP; this amount is more than 90% of the Indonesian KSP/USP . Moreover, they cover more than 18 million members, including MSMEs. ,They worry that AFI will destroy such cultures. It is well known that AFI was established by the World Bank, IBRD, and International Financial Corporation (IFC) which emphasized global business networking, society empowerment based on management, infrastructures, and principles which are distinct to the current value. They focus on material value, whereas Islamic microfinance such as *BMT* focuses both on the material as well as the spiritual .

Third , Indonesian BMT is an Islamic microfinance agency which serves the society based on mutual cooperation, based on trust value. BMT's aid is based on the Islamic financial credit principle such as *Qiradh and Syirkah* (profit loss sharing) which are encouraged in Islamic value. Moreover, BMT declares that it is an Islamic missionary endeavor (*Da'wah*) institution to serve people toward a better life today

and for the hereafter. On the contrary, the current AFI program does not have a clear vision to serve *the ummah*; they focus on business calculation, as seen on interest charging which is prohibited in Islam.

Fourth, the World Bank, IBRD, and International Financial Corporation (IFC) are gigantic power with global networking. Sometimes they employ any strategy to force the government in some manner such as through regulation involvement, political power, and economic power. The contender is afraid that this is not fair competition. They on the government to protect domestic interest and ensure they do not compete with global power without any protection. They request the government to support microcredit and MSMEs during a crisis to strengthen the economy.

Fifth, the AFI program under Alliance Financial Inclusion (AFI) is a global financial program hatched by the World Bank in cooperation with the Bill Gates Foundation in terms of ICT. Basically, not all programs initiated by the World Bank are accepted by Indonesian people. They argue that some world program can cause a domino effect to the social economy. They grant a debt with some rigid requirements that will affect the socio-economic life ratio in the future. This group of people tends to be unconcerned and unsupported in the program (Awaly, 2014).

Sixth, the AFI program is concerned that it will get a very limited support due because not all Indonesian people want to deal with banks, even conventional banks because the socio-cultural studies experts say that there are some tribes in Indonesia that hold a grudge against *Dutch* colonized Indonesia. So they assume that every practice of banks and education is related to the Dutch. (Raharjo, 2014).

Seventh, the proponents worry that the AFI do not accommodate local knowledge, values, and needs. Some Indonesian people in doing business and transactions sometimes base them on traditional values such as honesty, cooperation, and mutual consensus.

Eighth, the AFI is deemed to be not in line with the value of the locals, for example, in Aceh the AFI operates based on the value called *Gampong-Tuhapeut*. Generally, the value is based on cooperation, brotherhood, deliberation, and obedience (Damanhuri, 2013). By this value the people will be able to build any project based on togetherness and cooperation, besides that, based on this system, the people would

implement or not implement something before consulting their Islamic scholars which are very important and decisive in providing guidance. This culture is still working and operating in the current system (Al Yasa, Abubakar, 2015).

Ninth, the AFI sometimes contradicts the traditional value, including the value religious value, but it is still not clear how to resolve the issue. For example, in Bali the Banjar traditional society has a system based on the Hindu value system that allows them to execute transactions with community treasures. This system is headed by the head of customs and community members obeyed by them.

Tenth, the role of Cooperatives in the community needs to be taken into consideration because in Indonesia there are Cooperative networks, both formal and informal, this various types of Cooperatives such as savings and loans help each other with capital and to voluntary cooperation. Even Cooperatives have been formed based on *sharia* such as the BMT. This cooperative has a network at the grassroots in the village. In fact, it has a network of services for 50 million people served by the BMT. So this fact cannot be neglected; on the contrary, it should be developed because of the comparative advantages to building an FI based on Cooperatives.

However, the objections on AFI should be put in the right manner since it has proven to assist poor people in developed area as such as in a city. Hence the AFI may be suitably implemented in a growing area (Hanif, 2014). Based on an overview of Indonesia in terms of barriers, challenges, and externalities, we propose two models of BB development: *first*, top-down general AFI models designed by the central government and *second*, a community FI model based on the Islamic microfinance and Cooperatives which is based on local value and wisdom.

### **3. Result and Discussion**

#### *3.1 Positive Support Factors Related to Indonesian Branchless Banking Adoption*

Several positive externalities which support the Indonesian model establishment can be categorized into programs, infrastructures, and institutions. Program and process comprise government vision,

instruments, and political climate. Infrastructures include some institutions and agents, technology, the financial and private sectors.

From the program point of view, Indonesia has a strong position from the point of vision and mission, Nasution (2013). The central bank governor stressed that FI be a priority program to mitigate the income gap. Additionally, the Indonesian bank has developed a program to change the unbanked to be a banked people by identifying a client with three stages, namely financial identity number (FIN), then a customer identity number (CIN) and finally, a client DIN (debt identity number) (Swadiyanti, 2014).

In terms of Islamic microfinance as a merchant (agents) instrument, Kartiko (2015) an Islamic microfinance activist, ensures that the microfinance sector be ready for synergy in the program. While Rofah (2012) said that people in society is ready because they have a good characteristics, namely, easy for participating in the public development, some of them adhere to culture value, local wisdom, and religion value such as Islamic value.

From the Cooperatives aspect, Indonesia has a huge cooperative system established by *Muhammadiyah* and *Nahdhatul Ulama*. It is the largest mass organization in Indonesia, where the two organizations have 30 million members ready to implement a mobile payment system that applies to its members through Cooperatives. Besides, in Indonesia there are so many Cooperatives that are owned by NGOs, mass organizations, Islamic Boarding schools, local Cooperatives, and government Cooperatives, which are described in Table 2.

Table 2. Agents/Merchants (Cooperatives, Government agencies, NGO's, Muhammadiyah & Al – Washliyyah, Nahdhatul Ulama)

Level	Organizations Based on Community (Potential as Merchants)				
	Cooperatives, NGO's / Baitul Mal Wa Tanwil	Islamic Microfinance			NonIslamic Microfinance
		<i>Muhammadiyah</i>	<i>Al-Washliyyah</i>	<i>Nahdhatul Ulama</i> and Islamic Boarding Schools	
Province	Cooperative Province Head Office	Province council	Province council	Province council	Central Cooperatives

Level	Organizations Based on Community (Potential as Merchants)				
	Cooperatives, NGO's / Baitul Mal Wa Tanwil	Islamic Microfinance			NonIslamic Microfinance
		<i>Muhammadiyah</i>	<i>Al-Washliyyah</i>	<i>Nahdhatul Ulama</i> and Islamic Boarding Schools	
Regency	Cooperative Regency Head Office	Regency council	Regency council	Regency council	Branch Cooperative
Sub- district	Village Cooperative Desa / Baitul Maal wa Tanwil)	Sub-District council	Sub-District council	Sub-District council	District Cooperatives
Village	Primer Cooperative Baitul Maal waTanwil)	Village council	Village council	Village council	Rural Cooperatives

Sources: Cooperatives and Trade Department of Indonesia 2013.

In addition, Indonesia is very strong in terms of informal local financial institutions which have grown in some places in the name of the local transaction system based on values of cooperation and mutual trust. This system covers all community activities such as the economic and social, i.e., credits, buying and selling, marriage, and other related religious transactions as displayed in Table 3.

Table 3. Social-Economic Transaction Based on Community in Indonesia

No	Name	Location	Value	Transactions Type
1	<i>Merapi Mulia</i>	Yogyakarta	Javanese Brotherhood	Buying-Selling, Charities, Loan, Investment, Cooperation
2	<i>Banjar-Bali</i>	Bali	Local wisdom	Mutual assistantship, Trading
3	<i>Gerai Dinar</i>	Jakarta, Surabaya, Semarang, Sumatra	Islamic Gold Dinar	Buying-Selling, Charities, Investment

No	Name	Location	Value	Transactions Type
4	<i>Wakalah Induk Nusantara</i>	Depok, Jakarta, Bandung, Tanjung Pinang, Cirebon, Ternate	Islamic Gold Dinar	Buying-Selling, Charities, Investment, Trading
5	<i>Dinar First</i>	Jogjakarta	Islamic Gold Dinar-Dirham	Trading, Investment
6	<i>Bhakti Kita</i>	Middle java, West Java, and East Java	National value	Buying-Selling, Charities, Loan, Investment
7	<i>Baitul Wa Tanwil (BMT)</i>	All Indonesian Provinces	Islamic Finance	Buying-Selling, Charities, Loan, Investment, Business Transactions
8	<i>Tuha-Peaut-Gampoong</i>	Aceh	Local Value (Brotherhood)	Buying-Selling, Charities, Loan, Investment

Source: From the Indonesian Community Currency, 2014

From the above Table, the potency of *local wisdom based on religion or culture* in terms of financial transactions need to be considered for developing the appropriate model of BB in the FI in Indonesia. These potencies also can be presented as the greater opportunities to this model establishment.

### 3.2 Design Branchless Banking in the Financial Inclusion in Indonesia

In this section, we will design and analyze the alternatives model to be implemented in Indonesia by using deductive analysis. Based on the above we offered two alternatives: the top-down global AFI model designed by the government-linked with a global finance institution and community FI model based on Islamic microfinance and Cooperatives. Then it will be analyzed by six criteria as discussed earlier: geographic and distance factors, infrastructures and physical facilities, national and global finance regulations, governance failures, products and service features, and culture/religion value. By employing a deductive analysis, it will produce an appropriate model for an Indonesian FI model as shown in Table 4.

Table 4. Analysis of the Proposed Model

No	Criteria (Barriers)	Alternatives / Model:	
		Top-down global model designed by a government linked to the global financial institution	Islamic Micro-Finances and Cooperatives, Community Model based on Islamic value wisdom
1	Geographic and distance factors	To address this issue; using mobile phone (BB)	To address this issue; using mobile phones (BB) *
2	Infrastructures and physical facilities	Government should play a key role in dealing with the issue and need a big budget	The government may help to address the issue **
3	National and global finance regulations	The government should struggle to fulfill the requirements, especially to adjust to global need	Not involved in the issues because it is based on Islamic microfinance and Cooperatives***
4	Governance failures	The government should struggle to achieve a clean government and good governance	Based on community, not involved in government performance
5	Products and service features	Can be improved by innovation and creation and need more budget	The product and service are not complex (based on community agreement)
6	Culture, customs, local wisdom, and religion value	Very difficult to address the issue ****	The designed model follows a certain value and culture *****
<p>*: ICT and cellular provider should be facilitated by government and private ICT company.                      **: It is because government also takes benefit from the transaction (tax).                      ***. The objective is to find ways to connect to the poor for financial access, so the involvement of a global institution is not compulsory.                      ****: The general model is not flexible, difficult to adjust to specific characteristics.                      *****: It is because the community will create the appropriate model based on their agreement, besides, 80% of the Indonesian population are Muslim (250 Million Muslim).</p>			

Source: Author analysis by using deductive comprehensive analysis

From the above analysis, it is clear that the second alternative has some superiority in term of flexibility and acceptability; however, the

first model also has the advantage to strengthen for achieving global financial networking and global financial access. Therefore, the second model cannot be ignored by merely focusing on the first model only. The best way in Indonesia is to implementing the second model (community Islamic value model) together with the first model (global public model). This will provide a hybrid approach.

By using the Intelligence, Design, and Choice model, this study offers scenario connecting government sectors, unbanked people, public sectors, information and communication technology (ICT), and Islamic microfinance-Cooperatives as agents / merchants in a branchless banking model. In this model involving Islamic microfinance, it is an informal financial sector based on *muamalah* principles namely free from *maysir*, *garar* and *riba* such as *Baitul Mal Wat Tanwil (BMT)*, *Baitul Qirad*, and Islamic Cooperatives. These institutions have *Baitul Mal* to empower marginal group and MSMEs with financing schemes, i.e., *qordhul hasan*, *qirad*, *syirkah*, *murabahah*, *mudharabah* and other schemes. The sources of fund may come from rich people, donation, *zakat*, *waqf*, and other permissible sources. The loan managed by brotherhood, empowerment and education. The number of BMT in Indonesia is around 45, 000 units, spread to 34 provinces and has total assets reaching 1.5 USD billion (Harjono, 2015). The branchless banking based on Islamic microfinance is depicted in Figure 1.

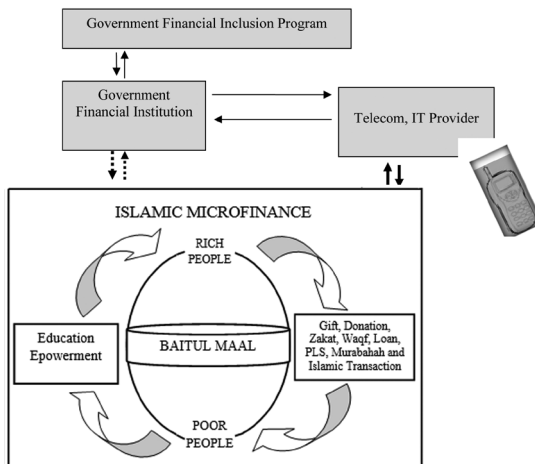


Figure 1. Branchless Banking Mobile Financial Inclusion Framework Based on Islamic Microfinance and Cooperatives

Source: Adapted by the authors.



### 3.3 Viability Analysis of the Proposed Framework

Interviews and idea collecting were done to ensure the proposed model is viable. The sources of data are academicians, scholars, public and mass movement organization, NGOs, Cooperative activists, *muamalah* group, government, technicians (ICT builders), OJK (financial services authority), Islamic microfinance (BMT) activists, and sociologists.

Suksmana (2015) stated that BMT applying ICT to serve customers facilitated by cellular phone is a viable idea. It makes possible that long distance customers can access financial products and services by using mobile phones. The transaction comprises *B2B* (business to business), *P2P* (personal to personal), *P2B* (personal to business) and *B2P* (business to personal). The services offered such as money transfers, remittances, payment of bills and government to person payments, *P2P transactions*, *B2B transactions*, *B2P transactions* and conversely, banking services, purchasing airtime, check balances, payment of electricity bills, payment for goods and services, payment of school fees, view statements, receive salary, etc. Not only can the government benefit from the tax collections, economic activity (transactions), it can also boost economic growth. Finally, the model may facilitate the velocity of economy growth through faster transaction and an easier payment method. By using ICT support and mobile phones, hundreds of transactions can be tackled efficiently in seconds while improving the national GDP.

Meera (2013) introduced that implementing information and communication technology in a transaction is called a *mobile phone & internet payment system*. It will come into the monetary system in terms of monetary and payment landscapes and it is a monumental change in the global payment system, in form FI to serve particularly the '*unbankable*' people. In addition, he stressed mobile money has some benefits such as an increase in the velocity of money due to convenience of use, easy payment/remittance, reduced transaction costs, secure, reduces the probability of shortage of money that contributes to recessions. Moreover, this model minimizes *riba* in the economy. The next step can be to implement integration by using commodities such as gold and silver. Gold and silver can be employed as a commodity for the measurement of value because gold has a stable and just value (Meera and Larbani, 2009).

Muhmd. Han (2015) from OJK stated that to deal with the poverty issue, the synergy between stakeholders such as a central bank, government institutions, public sectors, BMT, microfinance, Cooperatives, ICT providers and societies/businesses, and other agents are needed to attain a better future. To increase the capability of poor people to access the financial system, however, a step by step method is better to avoid the shock conditions, starting by educating and empowering them, then providing an identification for a Financial Identity Number (FIN), after they have an account, then encourage CIN (Customer Identity Number). By using the process of sustaining financial literacy they are more bankable then this can change to a Debt Identity Number (DIN).

Al Yasa (2015), as a public scholar figure in the *Muhammadiyah* mass organization, revealed his view of FI and poverty issue. He stated that poverty issue, especially the poor, should connect to financial assistances. He believed that the *Muhammadiyah* Islamic Cooperatives, as well as Nahadatul Ulama, will support this action as it is the movement to empower *dhuafa* (weak) people. However, it needs an integrated solution both mentality and spirituality.

The Islamic Cooperative activist, Kholil (2014) highlighted that the BB model for the poor involving Cooperatives is an appropriate method because it has some features to connect to institutions reduce cost of utility linkages, reduce cost of government payments, and reduce transaction operational cost. By implementing the BB concept, it will strengthen the cooperation among BMT and Cooperative members. It will enhance BMT fund sources, and its distribution, including for serving MSMEs. Besides, to empower customers both materially and spiritually will be easier. In additions, Yusron (2015) postulated that, the role of government is very crucial for coordinating Cooperatives and *BMT*, microfinance, financial agency and community leaders to be an agent of change to empower marginal people. While, the government should take function as a mediator by introducing some financial transactions such as government & social services, insurance, deposit, investment, etc.

In addition, BMT activist, Awalyl (2014) added that microfinance and Cooperatives have a huge role to play in the issue. Therefore, Islamic microfinance, such as BMT should be placed in the central

position in the FI movement. For the first step, the Indonesian BMT Association will establish mobile FI for its members. They stressed that this model is more flexible. Additionally, he declared that for around 30 years BMT has had a significant role in empowering the poor and MSMEs by their smart strategy to serve them. Today BMT has spread widely in 32 Indonesian provinces. Hence, he proposed BB flexible model. Moreover, Harjono (2015) ensure that government has a high commitment to promote an FI and a BB model, however, the government should be involved actively to deal with the poverty problem, especially to provide regulation and political vision.

The ICT consultant and builder, Khalif (2015), stressed that based on his experiences this model will be efficient if the customers of the system reach 3,000 members, and BMT currently has three million members and fits the agenda. Besides, it is an effective manner to break off the hindrances of the unbanked poor people to access financial assistances. Moreover, it is able to improve their social-economic capability. In addition, the implementation of the digital FI requires a digital financial platform to associate ICT, data sharing/mining, digital account, and clients by using mobile phones and it can be fulfilled by Islamic microfinance gradually. In term of mobile phone and cellular providers, it can be addressed easily since in Indonesia there are many providers, i.e., *Telkomsel. XL, IM3, Indosat, Axis and Bistell.*

From the NGO point of view, Aditya (2015) believes that Cooperatives and Islamic microfinance are quite enough as agents or merchants, it has chain reached them villages so that they can easily access these services. All type of Cooperatives in Indonesia should be involved, such as Village Unit Cooperatives and *Kopontren*. Besides, he said that the customer's protection law, which is provided by the Indonesian Law Minister, should be adopted to meet safety and convenience issue. It is important to ensure the trust as the transaction performed by mobile phones.

Moreover, Edward (2014) as City Mayor, stressed that the key performance indicators of the success implementation are the powerful regulation, and a third party should have adequate experience for serving and protecting customers. The Indonesian government has prepared Acts to support virtual businesses including business transactions by mobile phones in the digital era. He agrees with the idea, and he

believes that this model will promote village economic growth as a national economic foundation. In addition, educating people is also an urgent step in this direction that the target group must understand the mechanism, their rights, the procedure and their obligation.

From a sociologist's view, Damarhuri (2014), stressed that there are some tribes in Indonesia which will do important things in society based on their leaders and agreement. Besides, there some special characteristic customs that tend to refuse the modern life came from the West, stemming from bad experiences during the colonization eras. The other special case in term of Islamic value is that people reject financial accesses as for reasons of usury. For this a different model FI should be addressed. The mentioned tribes are Aceh, Bali, Dayak, Samin-Java, Badui and Sasak. Therefore, a smart approach to their leaders is needed for joining the program by offering a community-based model which is simple and flexible. Raharjo (2014) strengthened that the tradition values should be accommodated by reason, flexibility and suitability arguments.

In the long term, a general design model should be established since Indonesia has heterogeneity from culture distances and value. Hence some model should be offered to cover these variations. For example, there are some mass Islamic organizations in Indonesia as well as traditional institutions such as *Muhammadiyah*, *NU*, *Al-Wasliyah*, *NGOs*, and *Tuha-Peaut-Gampoong in Aceh*, *Subak and Banjar in Bali*, *Dayak in Kalimantan*, and *Samin in Java*. Hence, *Muhammadiyah* leader, Sujak (2013), proposed more advanced models to reach the middle-upper class and educated people who live in urban areas. Yesi and Kasmianti (2013) findings stated that in the long term the AFI model should be used for a modern society in the digital era. However, he did not mention to what extent.

Therefore, this program is viable for a society from some aspects: conceptual, tactical, technical, and operational. The program offers some benefits whether for the government as well as people and institutions. It is a program to encourage economic growth, fair, distribution, and justice. That is why some regions are very enthusiastic to adopt this model in their area.

#### 4. Conclusion and Recommendation

To develop BB, Indonesia should consider value in society, religion, beliefs, community willingness, tradition local wisdom, and culture as well. Besides, the wide area, number of tribes, and the biggest archipelago with long distances should be considered as an important factor to develop FI in Indonesia. Therefore, the community model based on Islamic microfinance and Cooperatives is the appropriate model is an alternative to deal with the problem.

Islamic microfinance, BB based on ICT, where Islamic Cooperatives, BMT, *Baitul Qirad* as agents or merchants, is better to strengthen *ummah*, prosperity, national unity; ultimately, it will increase GDP by increasing transaction velocity. In addition, the proposed model is viable for society in terms of conceptual, strategical, tactical, and operational aspects.

Further research could focus to develop the alternatives and criteria for developing BB in terms of the FI model in a certain area. The alternatives could be an area of Indonesia which will be divided into some categories such as a level of development based on the area; then it will be evaluated by the criteria such as flexibility accessibility, efficiency, and effectiveness. The respondents should involve scholars, academicians, banking, ICT providers, NGOs, and the government by using areas and a stratified sampling method that can represent Indonesia as a whole. The quantitative and qualitative method can be adopted together in order to achieve a comprehensive result, besides, a focus group discussion method is important, and these things have not yet been carried out and is as the weakness of this study.

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