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Article

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BANKING & FINANCE | RESEARCH ARTICLE

Branchless banking agents: Business satisfaction, continuity, and viability

Hilman Palaon^{1*}, Sudarso Kaderi Wiryono¹ and Taufik Faturohman¹

Abstract: Branchless banking agent business is growing in many developing countries. Agents are an extension of financial services providers to serve the last mile customers. We adopted the framework of satisfaction theory to analyze the satisfaction and business continuity of branchless banking agents. Our research data were collected using computer-assisted personal interviews (CAPI) from 768 branchless banking agents in Indonesia. Small business success factors are used to determine our hypotheses. Structural equation modelling (SEM) and descriptive statistics were used for data analysis. In-depth analysis was performed to assess business viability using business model canvas (BMC). Apart from financial factors, non-financial factors were also found to have influences on business owners' satisfaction. Social contribution is one of the reasons for them to become bank agents, which is to channel social assistance programmes. We recommend financial services providers to improve agents' skills in serving customers and to provide monthly target transactions. Finally, the reliability of supporting infrastructure,

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PUBLIC INTEREST STATEMENT

Branchless banking solution is considered successful in many developing countries for providing formal financial services to the poor. Financial services providers cooperate with small businesses called agents to serve the last mile customers. Their main business objective is to obtain additional income from their regular business. They gain additional profits in the form of transaction fees. This solution has been introduced in Indonesia since 2009. As of September 2019, there were more than 1.1 million branchless banking agents spread across Indonesia with total customers exceeding 25 million. Their reasons for becoming branchless bank agents other than to generate profits are to contribute to society and to support government programme. For the continuity of this business, we recommend: to improve agents' skills in serving customers, to provide monthly target transactions, to distribute social assistance programme, and to enhance the reliability of supporting infrastructure (Internet network and the system used by agents).

especially the Internet network and the system or applications used by agents, is required for the sustainability of this business.

Subjects: South East Asian Business; Sustainable Development; Banking;; Innovation Management; Small BusinessManagement; Asian Business

Keywords: branchless banking; mobile money; business model; satisfaction; continuity; viability; Indonesia

1. Introduction

Branchless banking or mobile money agent is an innovation in providing financial services to the last mile customers especially in rural areas. This solution has been widely implemented in developing countries and it has successfully accelerated the financial inclusion agenda. Bank agents or mobile money agents become an extension of financial services providers in providing financial services at affordable costs. They are mostly micro-enterprises in rural areas who sell daily necessities, such as grocery stores, airtime sellers, pharmacies, small restaurants, and so forth (T. Lyman et al., 2006). This approach has proven successful in providing financial access to the poor who do not have a bank account (Aron, 2018). With this concept, financial services providers do not require large investments to reach remote areas. There is no need for physical branch offices with brick and mortar. They collaborate with retail stores to fulfil customers' needs for financial products. In several countries in Africa, financial services using agents are mostly provided by telco operators, and mobile money accounts reach 60% of the adult population. Meanwhile, in Asia, 20% of the adult population use the same solution, mostly provided by banks and fintech (Pasti, 2019). The success of financial service solutions using agents is reinforced by the growth of agents' number, while the sustainability of the solution will depend on the level of trust, efficiency, liquidity, and profitability of the agents (Suri, 2017).

The proliferation of branchless banking agents business has prompted us to analyze what factors need to be improved to ensure the sustainability of this business going forward. Branchless banking solutions have been introduced in Indonesia since 2009. As of September 2019, there were more than 1.1 million branchless banking agents spread across Indonesia with total customers exceeding 25 million (Indonesia. FSA, 2020). This paper discusses factors that influence the satisfaction and the continuity of branchless banking agents in Indonesia. We performed an in-depth analysis to propose the business model viability. In this case, agents collaborate with banks in providing financial services. We adopted the expectation-confirmation theory (ECT) framework to outline our research model for satisfaction and continuity of branchless banking agents business. We referred to previous research that discussed small business success criteria for determining our hypotheses. Structural equation modelling (SEM) was used to evaluate business satisfaction and continuity. Descriptive analysis was used to elaborate business model viability using business model canvas (BMC).

Our primary goals in this paper are to assess variables affecting branchless banking agent business satisfaction and continuity, and to propose business model viability. This paper has research and practical propositions. To our knowledge, this is the first study to combine satisfaction, continuity, and viability for assessing branchless banking agent business model from business owners' perspective. The results will provide recommendations to financial services providers i.e. banks, telco operators, and fintech companies in improving their support to agents, and insights to branchless banking agents. The government and regulators will gain awareness to encourage improvements to the supporting infrastructure for the branchless banking system and to continue using agents to distribute social assistance. Therefore, in this study, we address the following research questions:

- What are the factors that need to be considered to increase business satisfaction and continuity of branchless banking agents?

- How is the business model viability for branchless banking agents?

In this research, we first review several literature related to branchless banking or mobile money agents, business satisfaction, business continuity, and business model viability. Next, we describe the data/sample used and research methodology employed. Then, we outline the analysis, results, and discussion. Finally, we propose some conclusions and offer recommendations.

2. Literature review

In this section, we explore information from previous studies that discuss branchless banking, business satisfaction, business continuity, and business model viability.

2.1. Branchless banking and mobile money

Various challenges and advantages in implementing branchless banking or mobile money agents have been widely examined in previous studies. Brazil, India, Kenya, South Africa, and the Philippines are the pioneer countries that have succeeded in providing the solutions. Financial services providers obtain three benefits from cooperation with retail agents in providing financial services: reduced costs, relieved crowds in bank branches, and established presence in new areas. From a regulatory perspective, branchless banking can be classified into two models based on its service providers, which are bank-based and nonbank-based branchless banking. Bank-based branchless banking is a solution provided by banks, while non-bank-based branchless banking is provided by mobile network operators which have a financial service license. These two service providers can collaborate to create a new solution called the hybrid model. Bank-based branchless banking uses card and point-of-sale (POS) solutions to conduct financial transactions in retail stores, often referred as banking agents. Solutions provided by telco operators that utilize telecommunications infrastructure and cell phones in performing financial transactions are usually called mobile money (T. Lyman et al., 2006; T. R. Lyman et al., 2008).

McKay and Pickens (2010) evaluated branchless banking service providers in ten countries in terms of access, cost, and financial products. They conclude that the solution could quickly serve the underprivileged customers, the financial services cost was lower than the costs of banks in general, and going forward customers need financial services beyond payments. Mori and Zimmer (2015) argued that there is a need for branchless banking solutions in the Indonesian market by providing financial services at small shops scattered in remote areas. They conclude that customers expect financial services to be accessible, affordable, and secure. Mazambani et al. (2018) argued that mobile money agents' cash liquidity is a major challenge for the sustainability of branchless banking solutions in Zimbabwe. Mashigo and Kabir (2016) claimed that financial services for poor communities in South Africa are hampered by infrastructure support, high transaction costs, and the need for traditional collateral. Dermish et al. (2011) proved that branchless banking solutions transform financial services by utilizing retail stores located in social contexts where poor people live. The gap found is related to the benefits which can be obtained by stakeholders, including financial services providers, bank agents, customers, and regulators. Governments are changing the distribution of government to person (G2P) programmes for the poor through digital payment. Branchless banking is a widely used solution and the cost is cheaper than traditional payments (Pickens et al., 2009). Munyegera and Matsumoto (2016) concluded that mobile money services adoption in Uganda is influenced by education level, whilst financial solutions using cell phones are mostly utilized by families with higher education.

Diniz et al. (2012) argue that the use of technology in branchless banking solutions played an important role in the success of financial inclusion in Brazil. They suggest that branchless banking solutions which are intended for the poor to conduct financial transactions must be accompanied by financial education. In a different context, Nesse et al. (2017) elaborated the success of branchless banking in Pakistan, describing that customers can experience a variety of financial products offered by banks in cooperation with telco operators using their cell phones. She concluded that to increase the usage, cooperation among all parties and understanding of the local

conditions are required. Reaves et al. (2017) analyzed the security of android-based applications that are used by mobile money service providers in five countries. They concluded that the apps are still considered not reliable in providing consumer protection, and they suggest that the security of the apps must be improved. Margaret and Ruth (2019) conducted research in Kenya to assess branchless banking agents based on their motivation to become agents and their business performance. They argue that bank agents can increase their profits if they invest more to increase their float in providing services.

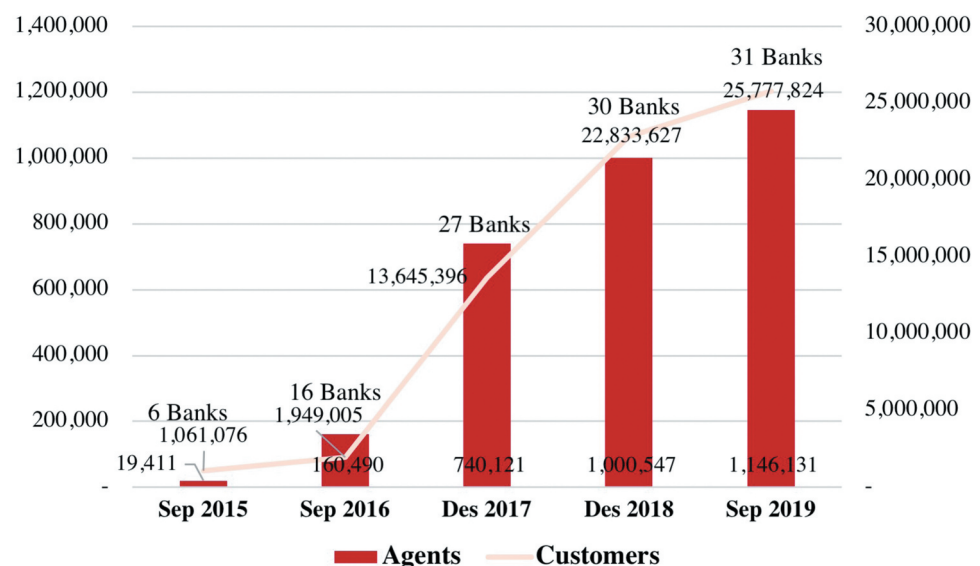
The branchless banking initiative in Indonesia began in 2009 through the digital financial services agent mechanism launched by the Indonesian Central Bank (BI). In November 2014, the Indonesian Financial Services Authority (FSA) issued a regulation regarding financial services without offices under the framework of financial inclusion (*Laku Pandai*). The financial products provided are basic savings account, credit for micro customers, and micro insurance (Indonesia. FSA, 2015). The growth of branchless banking in Indonesia over the past 5 years is illustrated in Figure 1, indicating a significant increase of the number of implementing banks, branchless banking agents, and total customers (Indonesia. FSA, 2020). The branchless banking solution has been used for the distribution of the non-cash social assistance programme since 2017 (Indonesia. President, 2017).

2.2. Business satisfaction, continuity, and viability

Business satisfaction, continuity, and viability are commonly associated with the success criteria of the business owner. For branchless banking, the criteria are similar to those of small businesses. Previous studies suggested that financial and non-financial factors can be used to assess the success of small businesses. Non-financial aspects are considered more important than financial benefits, including personal satisfaction and achievement, pride in work, and flexibility (Walker, 2004). Gorgievski et al. (2011) concluded that among the success criteria of small business owners, personal satisfaction is the most widely used criterion, profit is the second, and stakeholders satisfaction is the third. The next criterion is work and personal life balance, followed by innovation, continuity, usefulness, contributing to society, public recognition, and growth. Machek and Hnilica (2019) argue that two targets that business owners tend to achieve are economic and non-economic growth. These two goals have an influence on their overall satisfaction.

Figure 1. Branchless banking agents in Indonesia.

Source: Indonesia. FSA (2020).



Two previous studies on the sustainability of branchless banking business were carried out in Bangladesh and Nigeria. Zahan (2017) conducted a study related to the sustainability of the mobile banking agent business in Bangladesh where this business is growing fast and profitable. She concluded that business license is a major factor for the continuity of the mobile banking agent business. David-West et al. (2019a) considered the mobile money business model as a frugal innovation. The advantages of this business are the ease of resources used to provide financial services, affordable service costs, and the bridged gap in the financial services infrastructure. David-West et al. (2019b) also argued that due to the unavailability of the sustainable business model for mobile money agents in Nigeria, this business is considered unsustainable and unprofitable. The business model used is generic for all customers. They recommended that the solutions offered must be able to match the needs of the customer segment.

We did not find any previous research that discussed branchless banking agents business by combining satisfaction and continuity and proposed a viable business model. This business continues to grow in various countries. There are more and more business owners and entrepreneurs who want to become branchless banking agents to this day. Governments, regulators, and financial services providers need some insights to ensure the continuity of this business going forward. Specifically, this research is needed to present a branchless banking agent business model that fits the Indonesian context.

3. Methodology

In this section, we explain our data collection mechanism, and research model with the proposed hypotheses to address the objectives of the study.

3.1. Data

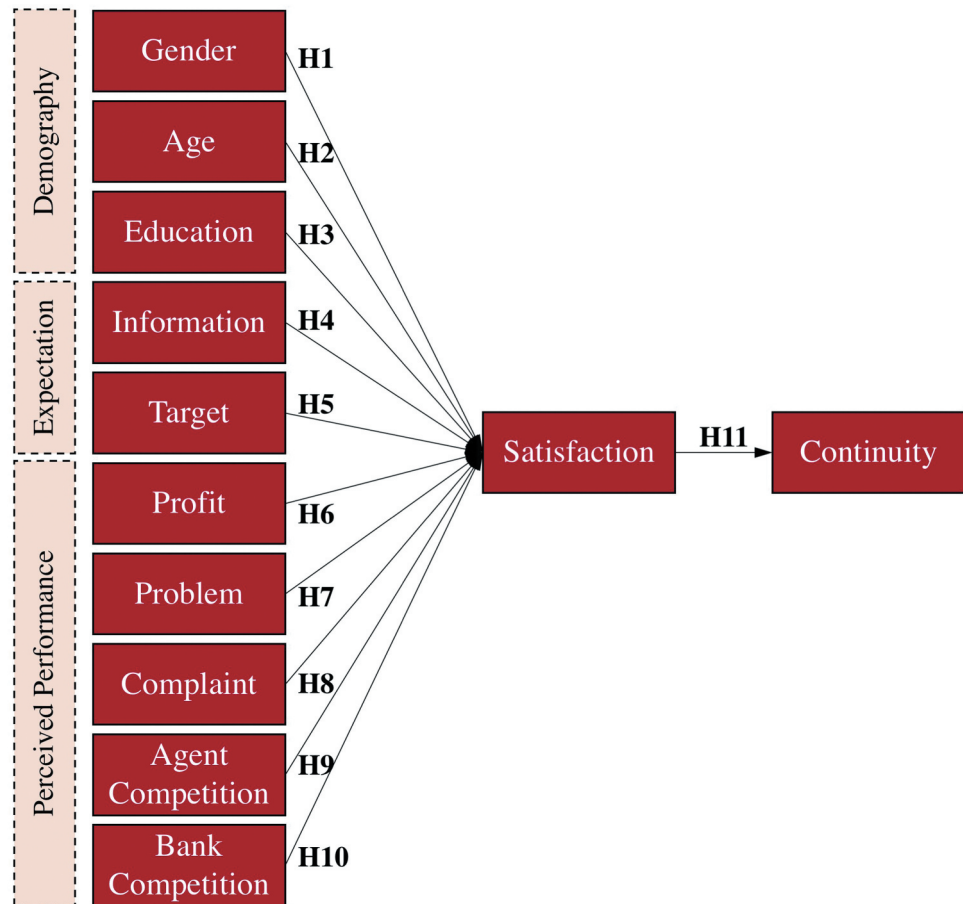
Data of this research were collected using a survey conducted by the national team for accelerating poverty reduction (TNP2K) and the World Bank (World Bank & TNP2K, 2018). The survey began in late 2017 and was completed in early 2018. It involved 768 banking agents in the form of micro-enterprises. The micro-enterprises usually work for themselves, or they are assisted by family members or have fewer than five employees. The survey respondents were from 544 rural areas and 224 urban areas spread across 16 provinces in Indonesia. The European Union Commission (2003) defined micro-enterprises as small businesses employing less than 10 employees with a total annual profit of less than EUR 2 million.

The data collection method is using computer-assisted personal interviewing (CAPI) technique. A laptop was used to record the participants' answers during the interview. The cost required to conduct an interview with CAPI is more expensive compared to the paper and pencil method. However, the use of CAPI can maintain data quality. Interviewers were guided in following the pattern of the questionnaire. If there were inconsistent respondents' answers, the inconsistency can be detected immediately (Baker, 1992). The questionnaire is divided into several sections: location, household member, enterprise information, bank cooperation, assistance distribution, liquidity, characteristics of enterprise building, agent evaluation, and complaint.

3.2. Research model and hypothesis

We adopted satisfaction theory to develop our research model and hypotheses. It was to be used in analyzing the business satisfaction and continuity of branchless banking agents. ECT is commonly used to study consumer behavior related to their satisfaction and post-purchase/post-use behavior. ECT theorizes that expectations and performance are determinants of satisfaction and that satisfaction is key to maintaining customer loyalty/continuity (Bhattacharjee, 2001). We used part of the framework from this theory to build our model. Yeboah-Asiamah et al. (2018) utilized ECT to determine the relationship between satisfaction, trust, usage, and continuance intention to use mobile money. In our model, as shown in Figure 2, we used three group predictors as determinants of satisfaction: demography, expectation, and perceived performance. There were ten exogenous variables measured using path analysis on satisfaction, while satisfaction was

Figure 2. Research model and hypotheses.



measured as an endogenous mediator on continuity. Previous studies on small business are used as a reference in developing our research hypotheses. Description of the variables we used, along with the questionnaires and response types, is provided in more detail in Appendix 1.

The demographic information of respondents is typically applied as an independent variable because of its nature which cannot be manipulated. This information can be in the form of categorical or continuous data such as gender, race, marital status, age, education, income, and family size (Salkind, 2010). Previous studies have found a significant impact of demographic variables such as gender, age, and educational on customer satisfaction. Morrison et al. (2003) concluded that the demographics background of business owners will form entrepreneurial characteristics reflected in their vision and business growth plan. Li and Marshall (2019) conducted research on the influence of gender on the satisfaction of the role of business owners in running the business. They argue that there is no difference between males and females in the degree of role satisfaction. Thus, we formulated the following hypothesis:

H1: The gender of a business owner has an effect on his/her satisfaction as a branchless banking agent.

H2: The age of a business owner has an effect on his/her satisfaction as a branchless banking agent.

H3: The education level of a business owner has an effect on his/her satisfaction as a branchless banking agent.

Having a clear understanding of business activities and the potential benefits that can be obtained is part of the expectations of business owners. Nora (2019) conducted research to determine the effects of customer trust, commitment, and knowledge on customer intimacy and implication for repurchase intention. She concluded that customer knowledge can increase customer trust and encourage continuity of further use. Machek and Hnilica (2019) analyzed the relationship between satisfaction to economic and non-economic business targets. Both of these objectives were found to increase the satisfaction of business owners. Thus, we formulated the following hypothesis:

H4: The comprehensive information about the agency business provided by the bank has a positive influence on the business owners' satisfaction as a branchless banking agent.

H5: The minimum monthly transaction target set by the bank has a positive influence on the business owners' satisfaction as a branchless banking agent.

The accomplishment of business goals is a key determinant of business owner satisfaction. Achievements, problems faced, and business disappointments will validate their satisfaction in running the business, which are part of perceived performance. Kirkwood (2016) investigated success factors criteria for business owners, which consist of financial success, personal satisfaction, work-life balance, and satisfied stakeholders. Profit is one of the sub-criteria of financial success, while doing a good job is part of personal satisfaction. Work-life balance is related to working time preferences, and stakeholders' satisfaction entails customer satisfaction, being a good business owner or employer, providing business opportunities, contributing to the economy and society. Thus, we formulated the following hypothesis:

H6: Financial profit has a positive influence on the business owners' satisfaction as a branchless banking agent.

H7: Problems encountered has an effect on the business owners' satisfaction as a branchless banking agent.

H8: Complaints from customers has an effect on the business owners' satisfaction as a branchless banking agent.

H9: Competition with other bank agents has an effect on the business owners' satisfaction as a branchless banking agent.

H10: Offers from other banks has an effect on satisfaction as a branchless banking agent.

From the results of the research using ECT conducted by Rahi and Abd. Ghani (2019), it was found that customer satisfaction has a significant effect on continuation. We use satisfaction as a mediating variable in our model with the following hypothesis:

H11: Satisfaction has a positive influence on the business owners' intention to continue the branchless banking agent business.

Furthermore, we conduct an in-depth analysis to analyze the business viability of branchless banking agents using descriptive analysis with the business model canvas. The branchless banking business model adapted to local context is essential for the sustainability of this solution (Lal & Sachdev, 2015; Nesse et al., 2017; David-West et al., 2019b). BMC is a thinking framework to define and create business simulations in order to develop new strategic concepts. This canvas was first introduced by Osterwalder and Pigneur (2010), and it became a popular tool for designing business models. BMC is composed of nine building blocks consisting of value proposition, customer segment, channels, customer relationship, revenue stream, key resources, key activities, key partners, and cost structure. The value proposition is the main building block, while the others are supporters in creating the suitable business model.

4. Results

This section describes the data we collect and the results of our analysis. SEM regression analysis is used to analyze satisfaction and continuity, and BMC is applied to conceptualize a viable business model.

4.1. Descriptive statistics

The demographic information of the respondents and types of banking agents' businesses are shown in Table 1. Most of the respondents were male (62%); 73% of the sample are aged between 30 and 49. The highest level of education is dominated by senior high school (42%) and college and above (40%). Banking agents are mostly represented by micro-enterprises that run small retail/grocery shop businesses (41%), followed by mobile phone/airtime sellers (13%). Descriptive statistics for the variables are provided in Table 2. This table informs about the minimum value, maximum value, mean value, standard deviation (SD), and total observations/respondents (Obs.).

4.2. SEM regression analysis

In order to answer our first research question, we analyzed the data using the SEM path analysis in Stata (StataCorp, 2019) to select the appropriate, statistically significant variables. Additionally, a goodness of fit test was applied to determine how well our model fit the data. A summary of the statistics based on the SEM estimation and the required goodness of fit test for the model is shown in Table 3.

The goodness of fit test results showed the suitability of our model (Acock, 2013). The following explanation acknowledges that our model was fit: (1) The recommended Likelihood Ratio Chi-squared (χ^2) goodness of fit value should be greater than 0.05, while our model was valued 0.08. (2) The root mean squared error of approximation (RMSEA) measures fit by considering how much error there is for each degree of freedom. The suggested value is less than 0.05, while our model yielded 0.03. (3) The comparative fit index (CFI) is to analyze our model to the base model which does not presume any association with all the observed indicator variables. The recommended value is greater than 0.90, while our model was valued 0.93. (4) The standardized root mean squared residual (SRMR) measures how closely we reproduce each correlation, on average. The recommended value is less than 0.08, while our model was valued 0.02. (5) The coefficient of determination (CD) is a general summary of how well the model fits. The suggested maximum value is 1.0, while our model was valued 0.11.

Among the 10 factors affecting satisfaction, five variables were found to be statistically significant with a p-values below 5%. These five significant variables were information, target, profit, problem, and competition agent; hence supporting H4 ($\beta = 0.21$, significance $p < 0.01$), H5 ($\beta = 0.08$, significance $p < 0.05$), H6 ($\beta = 0.16$, significance $p < 0.01$), H7 ($\beta = -0.08$, significance $p < 0.05$), and H9 ($\beta = 0.07$, significance $p < 0.05$). Four of them had positive effects on satisfaction (information, target, profit, and competition agent), while the reminder (problem) had the opposite result. The positive beta coefficient of information, target, profit, and competition agent means that the likelihood of banking agents' satisfaction increased along with information provided, business target, profits obtained, and competition between agents. Likewise, the negative coefficient for problem implies that fewer problems increased the likelihood of satisfaction level. Meanwhile, demographic characteristics of business owners (gender, age, and education), complaint, and

Table 1. Demographic variables and banking agents type of business (n = 768)

Variable		N	%	Type of business	N	%
Gender	Male	473	62%	Small retail/ grocery shop	311	41%
	Female	295	38%	Mobile phone/ airtime seller	103	13%
Age	15–29	118	15%	Food seller	67	9%
	30–49	561	73%	Photocopy/ stationary/ internet	56	7%
	50–69	89	12%	Household appliances shop	57	7%
Education	No formal education	4	1%	Farming/ husbandry shop	32	4%
	Elementary school	46	6%	Clothes seller	27	4%
	Junior high school	86	11%	Pharmacy	8	1%
	Senior high school	324	42%	Others	107	14%
	College & above	308	40%			

Table 2. Statistics descriptions

Variables	Min	Max	Mean	SD	Obs.
Endogenous					
Continuity	0	2	1.00	0.19	768
Mediating Endogenous					
Satisfaction	1	3	2.53	0.63	768
Exogenous					
Gender	0	1	0.62	0.49	768
Age	19	69	38.45	9.06	768
Education	1	5	4.15	0.88	768
Information	0	2	0.82	0.41	768
Target	0	1	0.44	0.50	768
Profit	0	2	0.85	0.41	768
Problem	0	1	0.69	0.46	768
Complaint	0	1	0.26	0.44	768
Competition Agent	0	1	0.57	0.49	768
Competition Bank	0	1	0.31	0.46	768

Table 3. Regression results using SEM

	Beta	SE	z	P> z	Hypothesis	
→ Satisfaction						
Gender	0.05	0.04	1.34	0.18	H1	Not supported
Age	−0.03	0.04	−0.81	0.42	H2	Not supported
Education	−0.03	0.03	−0.85	0.40	H3	Not supported
Information	0.21	0.03	6.32	***	H4	Supported
Target	0.08	0.03	2.18	**	H5	Supported
Profit	0.16	0.03	4.57	***	H6	Supported
Problem	−0.08	0.04	−2.24	**	H7	Supported
Complaint	0.02	0.04	0.68	0.50	H8	Not supported
Competition Agent	0.07	0.03	2.02	**	H9	Supported
Competition Bank	0.05	0.03	1.54	0.12	H10	Not supported
→ Continuity						
Satisfaction	0.10	0.04	2.90	***	H11	Supported
Note: ***p < 0.01 **p < 0.05; Beta: standardized coefficient; SE: standard Error						
Goodness of fit test						
χ^2	0.08					
RMSEA	0.03					
CFI	0.93					
SRMR	0.02					
CD	0.11					

competition bank were not found to be significantly influence on satisfaction. Our H1, H2, H3, H8, and H10 were not supported.

Next, we analyzed which predictors had an effect on continuity. Satisfaction had shown a positive significant influence on continuity and thus supported H11 ($\beta = 0.10$, significance $p < 0.01$). The effects on continuity is shown in Table 4. Of the five statistically significant predictors on satisfaction, information and profit variables were found have a small but statistically significant positive indirect effect on continuity ($p < 0.05$). These results explain that in addition to the level of satisfaction, business owners' intention to continue branchless banking agents business is also influenced by the clarity of information and the financial benefits.

4.3. Business model canvas

We combine the findings from SEM result with further analysis of dataset to answer the second research question. Descriptive analysis and business model canvas were used to design branchless banking agents' business viability based on the value proposition. The business model for branchless banking agents in the form of micro-enterprises must be able to consider the following reasons: why they want to become agents, what benefits they can get, and what obstacles they have been facing. Our results indicate the following findings. The main reasons why micro-enterprises want to become agents are to get additional income (53%), to support government programmes (23%), and to help people access banks (16%). In terms of financial services provided,

Table 4. Effects on continuity

	Direct Effect		Indirect Effect		Total Effect	
	Coef.	P> z	Coef.	P> z	Coef.	P> z
→ Continuity						
Satisfaction	0.031	***	<i>No path</i>		0.031	***
Gender	<i>No path</i>		0.002	0.22	0.002	0.22
Age	<i>No path</i>		0.000	0.44	0.000	0.44
Education	<i>No path</i>		−0.001	0.42	−0.001	0.42
Information	<i>No path</i>		0.010	***	0.010	***
Target	<i>No path</i>		0.003	0.08	0.003	0.08
Profit	<i>No path</i>		0.008	**	0.008	**
Problem	<i>No path</i>		−0.003	0.08	−0.003	0.08
Complaint	<i>No path</i>		0.001	0.51	0.001	0.51
Competition Agent	<i>No path</i>		0.003	0.10	0.003	0.10
Competition Bank	<i>No path</i>		0.002	0.18	0.002	0.18

Note: ***p < 0.01 **p < 0.05

the following are the activities most often served by agents: remittance, pay electricity or water bill, cash-in, cash-out, purchase airtime, and check balance. Type of information that is still considered incomplete is related to financial transactions (37%), agent training (32%), and banking products (22%). Most agents (56%) do not have monthly transaction targets set by banks, neither in the form of points nor minimum number of transactions.

Satisfaction survey results using the Likert scale show 60% of agents are satisfied, 32% are fairly satisfied, and 8% are unsatisfied. We deepen the analysis for agents who are unsatisfied (8% of the total respondents). The three main reasons why they are not satisfied are as follows: they did not receive sufficient financial profit (26%), they did not fit with the bank payment scheme (21%), and they did not receive adequate support from the bank (12%). Detailed satisfaction survey results and unsatisfied reasons are shown in Figure 3.

We followed the analysis with the respondents' perceptions regarding why they want to continue the business as bank agents. In terms of business continuity, 96% of the respondents said they would like to continue working with banks in providing financial services. The three main reasons why they want to continue working as bank agents are obtaining profits (30%), helping the community (28%), and having extra time to serve customers (12%). Apparently, there are three types of problems that most commonly occur during transactions: transaction fails because of signal lost (27%), Internet network down (24%), and system error (23%). Regarding customers complaints, 23% of all respondents stated that they had received complaints from customers. The most common complaints are related to the transaction process (83%). In terms of agent competition, 57% of the respondents stated that there were other branchless banking agents close to them. In this study, intense competition justifies the need for this solution and makes agents more eager to provide optimal service. Descriptions of the above analyses are provided in Appendix 2.

Furthermore, based on the findings of this research which are combined with previous studies, we propose a business model viability for branchless banking agents using a business model canvas as shown in Figure 4. We derived the nine building blocks for BMC based on our findings and analysis of this study. The value proposition must describe how the approach is used in answering customer needs. The value proposition of the offered financial

Figure 3. Satisfaction survey results and unsatisfied reasons.

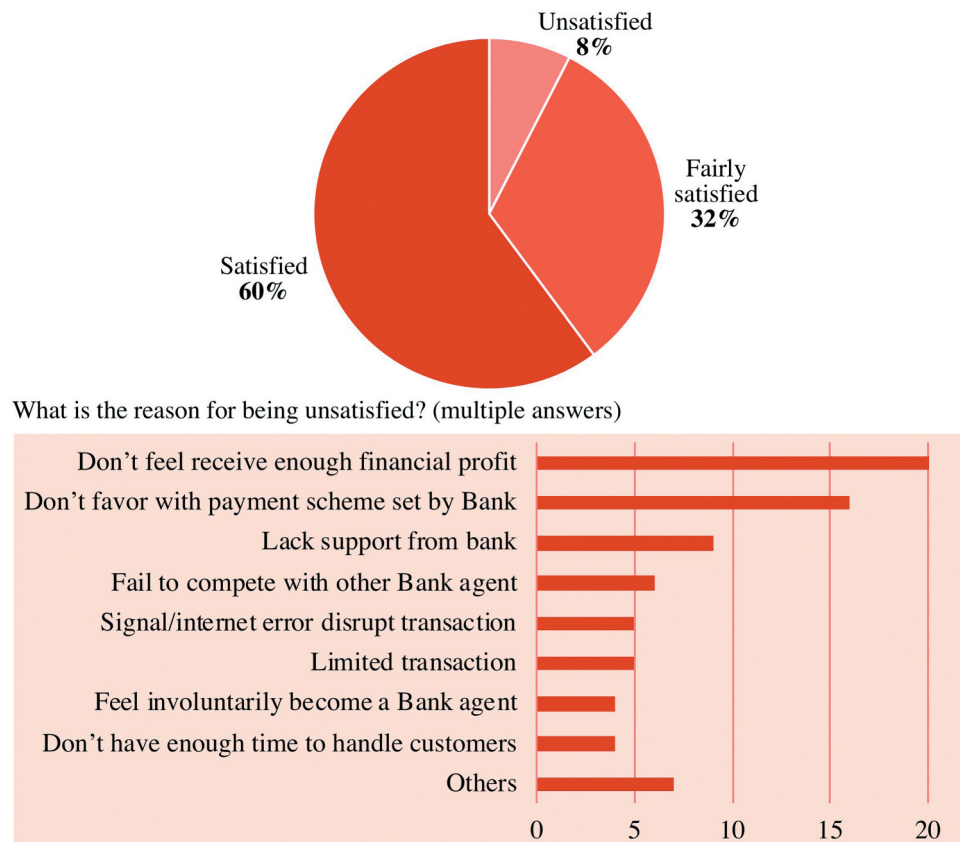
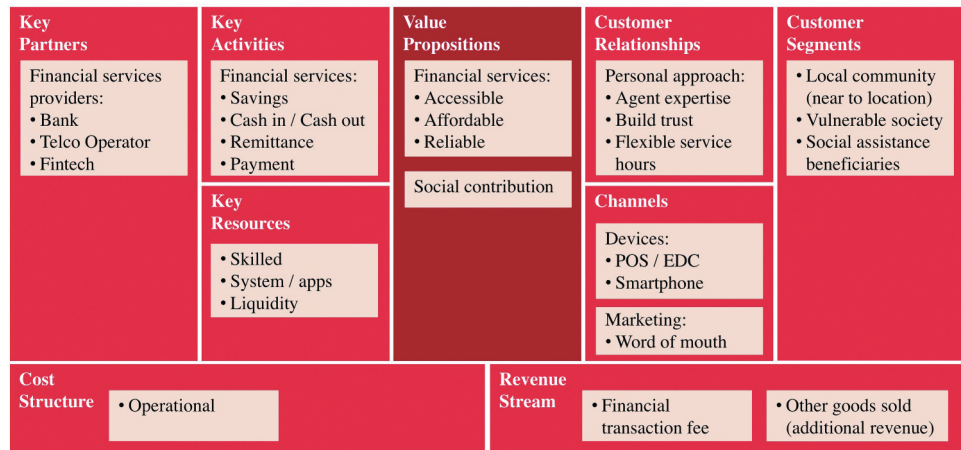


Figure 4. Business model viability for branchless banking agents.



services must contain a reliable system, affordable transaction costs, and easy access. In addition, social contributions are also considered important, which are related to providing financial services for the poor and delivering social assistance programmes. The target customers are people who live near the agent location, most of whom are poor and vulnerable, and recipients of social assistance programmes. Channels for conducting transactions are using

POS/EDC device for banking agents or smartphones for mobile money agents, while the best marketing mechanism for reaching target segments is through word of mouth. Customer relations are carried out through a personal approach mechanism. Agents must have expertise in operating the systems which will further create customer trust. In addition, service time flexibility can be an additional factor for customer convenience. The main revenue streams come from transaction costs for each financial service that is successfully delivered. In addition, customers can also buy goods sold by agents, which can create an extra revenue stream. The reliability of the financial system, application used, and the expertise of the agents are key resources that need to be developed. Key activities consist of the types of financial services provided. Key partners are financial providers who work with agents. They can be bank, telco operator, and fintech. Cost structure consists of costs required as an agent. This is in the form of operational costs such as rent, Internet, electricity, transportation to the bank/ATM, and salary if hiring employee.

5. Discussion

Based on previous literature, eleven hypotheses were successfully mapped consisting of financial and non-financial aspects. We adopted a portion of the ECT to develop our model and hypotheses. We used SEM to discover exogenous variables that affect the satisfaction of branchless banking agents, and to discover satisfaction's role as a mediating variable on continuity. In this study, branchless banking agents are represented by business owners who already have main businesses in various sectors. Although working as branchless banking agents is an additional business for them, the factors that influence this business satisfaction and continuity are similar to small businesses in general.

Branchless banking agents satisfaction can be foreseen using the same predictors as small business owners' success criteria. The success criteria of a business are not only related to operational aspects in running a business and financial aspects for increasing profits and growth. Other non-financial criteria that also affect their success are related to personal satisfaction, innovation, and social contribution (Roberts, 1999; Paige & Littrell, 2002; Adams & Sykes, 2003; Czarnitzki & Kraft, 2009; Gorgievski et al., 2011; Kirkwood, 2016;; Machek & Hnilica, 2019). The mobile money agent business is influenced by the service quality and competition between agents, where consumers prefer agents with better services (Eijkman et al., 2010; Balasubramanian & Drake, 2015). Supporting the conclusions of the previous studies, satisfaction of branchless banking agents was found to be related to product knowledge, expected target, financial benefits, business competition, and difficulties in conducting business activities. In this study, these five factors are represented by independent variables which we classify into information, target, profit, competition agent, and problem. From previous studies that applied the ECT model, customer satisfaction was proven to have a significant positive effect on repurchase intention or continuous use (Levy & Hino, 2016; Rahi & Abd. Ghani, 2019;; Ashraf et al., 2020). The results of our model also supported these previous findings, discovering that satisfaction as a mediating variable had a significant positive influence on business continuity in the case of branchless banking agents.

We continued the analysis to create branchless banking agents business viability. Learning from the success of branchless banking implementation, problems that often arise are related to the reliability of the service, agent liquidity or cash flow, and customer care (Morawczynski & Pickens, 2009; Haas et al., 2010; Dermish et al., 2011; Margaret & Ruth, 2019). Reaves et al. (2017) argue that there is a need for reliable apps. These are consistent with the results of our analysis, indicating that the most common problems faced by agents are transaction fails because of telecommunication network, system errors, agent liquidity, demand from the community, and marketing. The most frequently performed financial services are beyond payment, which aligns with the recommendation of McKay and Pickens (2010). In addition to payment, our results found that the most performed financial services are transfers, cash-in/cash-out, and airtime purchases. We also found that social contribution is one of the most common reasons explaining why business owners want to become bank agents and why they want to continue this business. Our

finding is consistent with the suggestion of Rahi and Abd. Ghani (2019) and Machek and Hnilica (2019) in relation to social contribution as a non-financial factor that affects business owners' satisfaction and intention to continue the business. One form of social contributions for branchless banking solution is a channelling of government funds to the poor (Mas, 2009). Our in-depth analysis results suggest the following main factors that need to be considered in the branchless banking agent business model: information availability, profitability, transaction target, supporting infrastructure, system reliability, agent competition, and social contribution. These are mostly in accordance with Suri (2017). She argues that trust, efficiency, liquidity and profitability for agents are important factors in the sustainable branchless banking agent business. Finally, from all those findings and analysis, the nine building blocks for the business model canvas were discovered to propose a branchless banking agents business viability. This is responding to recommendations from David-West et al. (2019b) to provide a business model for branchless banking agents in order to be more viable and profitable in the future.

The results of this study contribute to improving business models and policies for branchless banking agents. This study also responds to the suggestion from Lal and Sachdev (2015) and Nesse et al. (2017) regarding the availability of business model in accordance with the local context. We have succeeded in developing a branchless banking business model that fits the Indonesian context using BMC. The study involved respondents from various types of businesses, and many factors were analyzed as a basis for formulating conclusions. Recommendations from previous studies related to business satisfaction criteria business continuity, and business viability have successfully been applied. However, this study still has some limitations. The case is more focused on the condition of branchless banking agents in Indonesia, and the samples used in our analysis did not include the perspectives of customers and financial services providers. Furthermore, our suggestion and concept of business model viability for branchless banking agents can be used by future research conducted in other countries.

6. Conclusion

Financial service solutions through branchless banking or mobile money agent mechanisms are growing rapidly. This solution has been successfully implemented in developing countries and has been proven to accelerate the financial inclusion agenda. In several developing countries, the agency banking business is in great demand by small business owners. By this, they can get additional profits and make social contributions. Our study focused on the condition of branchless banking agents in Indonesia. In this paper, the concept of business model viability for branchless banking agents is proposed. The development of the business model concept begins from the understanding of factors that influence the business success criteria and the business owners' intention to continue with the agency business. The analysis was conducted using dataset collected through CAPI involving 768 banking agents spread across Indonesia. We adopted ECT framework for our research model and hypothesis. We used SEM path analysis to analyze the data, and we used BMC to propose the business model viability. We have succeeded in developing a branchless banking agents business model that fits the Indonesian context.

The two main reasons why business owners want to continue working as bank agents are to obtain additional profit and to help the community. We recommend financial services providers (i.e. banks, telco operators, and fintech companies) to provide routine counselling schedules to agents. This aims to improve bank agent skills in serving customers and also to educate them about various types of financial products. In addition, providing monthly target transactions can increase agents' morale and their satisfaction. We suggest that the government should continue to use bank agents to distribute social assistance programmes. This will increase the non-financial satisfaction of business owners. The problems that mostly occur are related to telecommunications failure and errors in the system or application used. We advise the government and regulators to improve the quality of the infrastructure supporting the conduct of digital financial transactions, precisely one which is related to telecommunications and Internet networks. Lastly, the systems or applications developed by financial

services providers must be reliable and easy to use by considering the user interface (UI) and user experience (UX) in accordance with the characteristics of the agents.

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Data availability statement

Due to confidentiality of the overall survey agenda, institutions involved in this study did not agree for their data to be shared publicly. Therefore, supporting data are not available.

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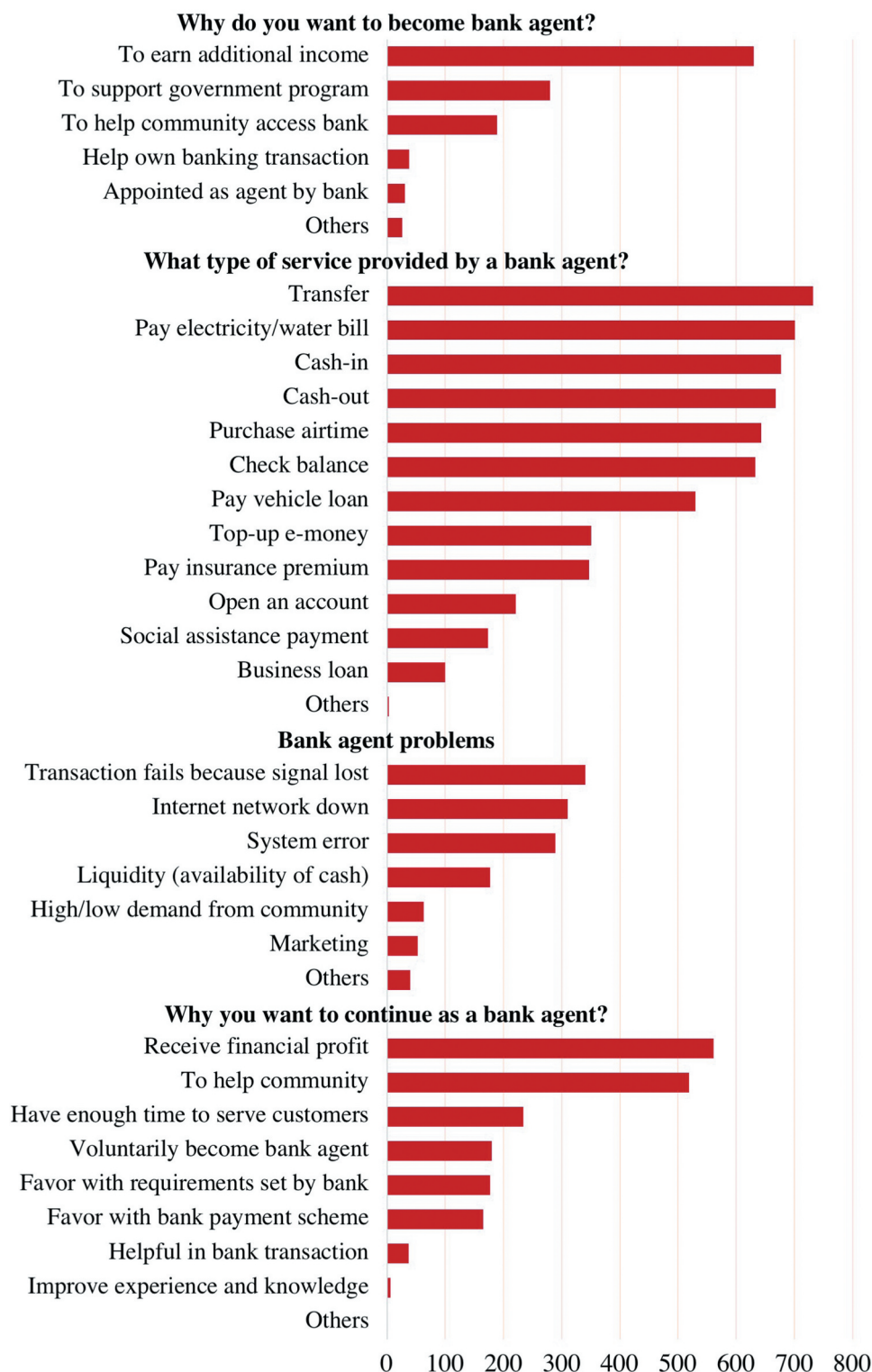
Appendix 1. Variables and questionnaires

Variable	Question	Answer/Response
Endogenous		
Continuity	Do you want to continue as bank agent?	0. No/1. Yes/ 2. Don't know
Endogenous Mediator		
Satisfaction	What is the level of satisfaction as bank agent?	1. Unsatisfied/2. Fairly satisfied/3. Satisfied
Exogenous		
Gender	Gender of business owner	0. Female/1. Male
Age	What is the age of the business owner?	Age
Education	What is the highest level of education ever/being attended by the business owner?	1. No formal education 2. Elementary school 3. Junior high school 4. Senior high school 5. College & above
Information	Does this enterprise feel bank have provided enough information regarding agency?	0. No/1. Yes/ 2. Don't know
Target	How many minimum transactions according to the bank that you have to make per month?	0. No/1. Yes
Profit	Does financial profit raise up due to being a bank agent?	0. No/1. Yes/ 2. Don't know
Problem	As long as you become an agent, have you experience any problems?	0. No/1. Yes
Complaint	Is there any report/complaint about banking/programme from customer to agent?	0. No/1. Yes
Agent Competition	Is there other bank agent nearby?	0. No/1. Yes
Bank Competition	Have you been offered to become agent from other banks?	0. No/1. Yes

Appendix 2. Descriptions analyses

Figure 1. Branchless banking agents in Indonesia.

Source: Indonesia. FSA (2020).





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