Design Development of Financial Citizenship Model for Women in Indonesia

Ignatius Roni Setyawan *
Department of Management, Faculty of Economics and Business
Universitas Tarumanagara
e-mail: ign.s@fe.untar.ac.id

Ishak Ramli
Department of Accounting, Faculty of Economics and Business
Universitas Tarumanagara
e-mail: ishakr@fe.untar.ac.id

Indra Listyarti
Department of Management, Institute of Economic Science (STIE) PERBANAS Surabaya
e-mail: indra.listyarti@perbanas.ac.id

Abstract. This study aims to determine and find financial decision making models using information technology and concepts of women's understanding of financial inclusion. The financial decision making in families that is suitable to provide understanding of women in understanding financial inclusion and information technology of financial technology. Prior to this research we will map the information technology and the understanding of women’s financial literacy in two regional locations: Pacitan and Tangerang Regency. These two regions have unique geo characteristics and different paradigms of the women’s mindset, and the proximity of the region to the capital. Pacitan Regency experienced a significant increase in the small and medium businesses, mostly carried out by women (mothers). This research is planned to use Structural Equation Model (SEM) with Partial Least Squares (PLS) nonlinear regression technique. We analyze the 300 primary respondents’ questionnaires’ data collected from women in Pacitan and Tangerang regency from September until November 2020. Affordable population of the study, each district will be taken as many as 150 respondents. from respondents from both regions. The expected outcome is a model of mapping women's knowledge of financial inclusion and behavior of women in financial decision making and understanding of financial products in Pacitan and Tangerang Districts to reaffirm the context of financial citizenship namely financial literacy and inclusion referring to Hennings and Machado [6] and Listyarti [11]

Keywords: Financial Technology, Financial Inclusion, Behavior Finance, Structural Equation Model, Financial Literacy, Financial Decision Making

1. Introduction

Indonesian people still have a low understanding of the financial services products. It is just only 28.9% of the adult population understands banking products in Indonesia. It is much lower compared to other Asian countries. Fintech becomes alternative of helping the community in finance transaction then. So that the growth of financial technology negatively influence on the bank performance [1].
Under the background of financial technology (FinTech), the banks must select an appropriate technology company to cooperate. The technology company selection can be regarded as a kind of multi-attribute group decision making (MAGDM) problems. The probabilistic linguistic term set (PLTS) is a useful tool to express decision makers’ (DMs’) evaluations in the technology company selection [2]. The adoption of new technologies and services in the financial industry by German households surveyed by Junger at.al [13] found 31% of the survey respondents could imagine moving away from a traditional provider to a FinTech, indicating that these new providers are able to take significant market share from incumbents. Mobile and digital technology services influence financial inclusion because it reduces barriers to access, its product design, delivery of services, and encouraging take up. Then selecting information technology and software and hardware architectures becomes important in building a financial inclusion model.

The other factor influence financial inclusion is gender. Women has a lower risk appetite in financial risk than a man, so in decision making process it also affected the financial inclusion especially in financial technology. Since managing its household finance in a family done by women, then women have an important role in providing optimal financial decision. Women who understand the benefits and risks properly, must know their rights and obligations in financial products and services. A woman or wife in the household requires adequate provisions for decision making in the household, especially relating to family financial management. So selecting the information technology of financial technology must consider the behavior of women. The Women’s World Banking meeting on May 9, 2018 in Jakarta stated that the role of women as economic support for the family is increasingly.

There is some urgency of the growing role of women, among others. First, women as the main market segment for the financial services industry, second, raise support and collaboration between financial service actors which are expected to increasingly open financial access for women as well as solving problems and obstacles for women in increasing financial access [3]. Barriers for women to be solved, among others are cultural and institutional barriers, barriers to education and literacy levels, regulatory barriers and time constraints. The urgency of the role of women according to the Women’s World Banking meeting with the theme Making Finance Work for Women and the nature of women as household financial managers and determinants of family savings is the motive of our research on the basis of a new theory that is financial citizenship (Vice President Strategic Partnership Women’s World Banking in [4].

As per World Bank Report (2012) according to [14] indicated that two billion people, or 38% of adults in the world, do not use formal financial services, and 73% poor people are unbanked because of costs, travel distances, personal beliefs, and often difficult requirements involved in opening a bank account. The body of evidence suggests that appropriate financial services can help improve household welfare and promote small enterprises. The financial exclusion is attributed to various reasons. Conventional financial system has several inherent limitations which lead to unserved population. Digital currency and mobile technology can spur penetration of financial system partially in unserved population. The evidence shows that high cost for small ticket size financial transaction in conventional financial system makes the transactions unviable. Digital currency and mobile technology can cater the needs of small transaction at affordable cost. It can also help reducing time, more accurately and make faster transactions in bulk. Many emerging economies like India, Brazil, and Nigeria have embarked on mobile technology to overcome financial exclusion. This chapter sheds light on opportunities, challenges, solutions, global experience in floating digital currency, and using mobile technology for financial inclusion [5].
Our output is a model of mapping information technology and women’s knowledge of financial inclusion and behavior in financial decision making and understanding of financial products in Pacitan and Tangerang in order to re-implement financial citizenship that is the expansion of financial inclusion refers to [6]. The financial citizenship model is an extension of financial inclusion made by [7] and [8]. The financial inclusion model of the two has been successful in several quite developed countries; but in the case of developing countries like Indonesia, it has not been successful. The level of literacy and financial inclusion is still low. According to [6], in order to increase financial inclusion and literacy in developing countries, it is necessary to add two factors, namely financial education and consumer protection. Financial inclusion comes from secondary data, namely access and use, then in contrast financial education and consumer protection, we use survey data that is knowledge, attitude, behavior, demand, rank, channels of attendance and conflict resolution.

2. Literature Review

According to [7] financial inclusion is related to three main things: Access, Usage, and Quality. Access (access) relates to the ability to use services and products offered by financial institutions. Access is an infrastructure provided by financial service institutions so that the community can reach formal financial institutions, products and services. For examples by adding office networks, increasing the number of agents, increasing the number of ATMs, adding points of access through digital services and so on. Usage is related to the use of financial products and services by a community which is the goal of financial inclusion, so that the public is expected pleased. In addition, the availability of financial products and services needs to be adjusted to the character and needs of the community that can be reached both in terms of price and access. Quality is related to the relationship of financial services and products in meeting the needs, lifestyles needed by individuals. Quality is a condition where financial products and services can provide maximum benefits to the people who use these financial products and services. Quality can also be interpreted as the active use of financial products and services, which means that financial products and services are "fit" to what is needed by the community so that the using frequency is relatively high. Financial inclusion is a new thing and is still not widely understood by the people in Indonesia. The World Bank (2012) reported that three-quarters of the world population have access to mobile phones. Mobile phones are also widely accessed by the poor in developing countries.

The combination of IT and mobile telephony has emerged as a viable solution for greater financial inclusion because it minimizes the need for setting up physical branches by banks. Increased mobile phone penetration increases financial access, in addition the combination allows servicing banks to improve efficiency through using multiple channels that work together as an inter-connected system [9].

3. Fintech Analysis Model

We adopt the MODAF version 1. 2 from Naif Aljlayel [10] and modified the model by adding women characteristic in financial inclusion: The review of MODAF provides the whole picture of the architecture, its components of development and full structure. It also allows integrating the various elements involved in the architecture. Moreover, MODAF describes various standards and their interactions to achieve the desired output of the system. MODAF views: Different views are described by MODAF where each point is a composite of many views thus highlighting some aspects within each viewpoint. The MODAF also provides interactions among various components of a conceptual graphic and interaction between operational nodes and information flows (OV-3). It was observed that most of the MODAF communities of interest deal with population and exploitation of the sub-set of MODAF views. According to DoD24, the seven most important categorized MODAF views namely, strategic, operational, service, system, acquisition, technical and all other views could be presented in figure 1 in this below.
Enterprise architecture layers consists of The Enterprise Architecture Layers (EALs) proposed by Winter and Fischer 1 and BP trends Harmon 25 will be discussed. Enterprise architecture layers proposed by Winter and Fischer 1: The second criteria of Holistic Enterprise Architecture Frameworks (HEAFs) is to include the five Enterprise Architecture Layers (EALs) proposed 1 These five layers that should be included in an enterprise architecture framework to be holistic are: C Business architecture: The business architecture represents the fundamental organization of the corporation (or government agency) from a business strategy viewpoint C Process architecture: The process architecture represents the fundamental organization of service development, service creation and service distribution in the relevant enterprise context C Integration architecture: The integration architecture represents the fundamental organization of information system components in the relevant enterprise context.

Software architecture: The software architecture represents the fundamental organization of software artefacts, e.g., software services and data structures. A broad range of design and evolution principles from computer science is available for this layer C Technology (or infrastructure) architecture: The technology architecture represents the fundamental organization of computing/telecommunications hardware and networks. A broad range of design and evolution principles from computer science is available for this layer too.

4. Research Method
Population of the research is women worker and entrepreneur in both Pacitan and Tangerang regency. 300 women workers and entrepreneurs sample selected, 150 each from the regencies by randomly snowball sampling method. We collected data by in-depth interviews and from questionnaires and secondary data as well. Using Structural Equation Model (SEM) with Partial Least Squares (PLS) nonlinear regression technique, we will analyze the 300 primary and secondary respondents’ data collected from women in Pacitan and Tangerang regency from January until March 2020. This analysis can simplify the observed variables by reducing variables that have high multicollinearity.

In this variable the exogenous variables are financial attitudes and behavior, while the endogenous variables are Saving Activities, Payment media most often used, Ability to Calculate, Financial Understanding, Statements that indicate how decisions are made, Experience in the past 2 years, Taking Financial Decisions for a Day days, experience related to financial security, duration of financial security without borrowing money or moving house, statement of financial attitude. There are 3 instruments in this study. The research instruments were sourced from the Financial Services Authority and the OECD [11] and [12]
The synergy of the research road map with the proposed research occurs through the implementation of our research model based on achieving the conditions of financial citizenship. This condition is met through a mediating variable named Intention to be wiser in financial decisions and selection of financial products on the basis of a strong degree of financial inclusion and literacy. This intention must be formed through the accumulation of financial education and customer protection processes. This good intention can be seen as a form of implementation of intellectual empowerment to overcome strategic issues that have not yet developed the potential of the region according to one of the leading research themes of our university that is sustainability of community.

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