

Society 5.0: Feasibilities and Challenges Of The Implementation Of Fintech In Small And Medium Industries

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Submission date: 26-Jul-2023 09:57AM (UTC+0700)

Submission ID: 2136905725

File name: iety_5.0-_Feasibilities_and_challenges_of_the_implementation.pdf (890.01K)

Word count: 2476

Character count: 13399

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To cite this article: N A Hamdani *et al* 2019 *J. Phys.: Conf. Ser.* **1402** 077053

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Society 5.0: Feasibilities and challenges of the implementation of fintech in small and medium industries

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Abstract. In Society 5.0, financial capital is no longer the key, but data that are interconnected with each other. The Internet of things will be a new normal, dedicated to unlocking human potentials. The purpose of this study is to analyze the feasibilities and challenges of the implementation of fintech in small and medium industries. To this end, a survey was conducted on a sample of 60 small and medium industries. It was revealed that the implementation of fintech in small and medium industries did not seem ready to be achieved due to the limitations in technology infrastructure, data and information, human resources and policy. Therefore, improvement to these factors should be made to realize the human-centered and technology-based society.

1. Introduction

Financial technology (fintech) is deemed as one of the most important innovations in the financial industry in the era of Society 5.0 [1]. Fintech is partly driven by sharing economy [2], favorable regulations [3], and information technology [4]. Fintech offers new and low-cost financial industry structure [5], improved quality of financial services [6], and diverse and stable financial land-scape [7]. The development of technology in infrastructure, big data, data analytics, and mobile devices enables fintech startups to disrupt traditional financial firms with unique, niche, and personalized services [8]. fintech is now far beyond the hype stage and has become a major player in the financial industry [9]. Fintech startup differentiates itself from traditional financial firms with personalized niche services, data-based solutions, innovative culture, and agile organizations [10]. Therefore, fintech is considered a threat to traditional financial firms [11]. On the other hand, fintech offers financial startups competitive advantage [12]. Many large financial firms are starting to take fintech startups seriously and are developing strategies to compete, coexist and collaborate with them [13].

However recent research from Alibaba's Rural Taobao Strategy explain how fintech is transforming social inclusion [4], Monetary Authority of Singapore (MAS) [13], Chinese financial industry [14] has indicate that there are certain impediments that impede their ability to effectively transition toward, and implement Fintech on society 5.0. Issues such as the lack of a qualified workforce, interpretation problems, the absence of available resources, and the lack of a tradition of undertaking professional judgment on principles based standards, has caused problems. Adopting fintech does not always lead to effective implementation and these issues have been more profound for the public sectors in developing countries more so than developed economies [15].



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In Indonesia, fintech is currently experiencing a rapid growth. According to a report released by Statista in December 2018, the biggest market of fintech is digital payment with a total transaction projected to reach USD 26.575 million in 2019 and its compound annual growth rate (CAGR 2019-2022) is projected to reach 11.9%. Therefore, the total transaction is projected USD 37.238 million in 2022. As for personal and microbusiness loans, the transaction is projected to reach USD 38 million in 2019 and its compound annual growth rate (CAGR 2019-2022) is projected to reach 13.0%. Therefore, its total transaction in 2022 is projected to reach USD 54.2 million. The present study examines the feasibilities and challenges of fintech application in small and medium industries.

2. Method

This study was conducted using an explanatory survey. Questionnaires were addressed to 60 respondents of small and medium industries selected using accidental simple random sampling. Data analysis was performed using PLS by means of SmartPLS.

3. Results and discussion

Evaluation of the indicator measurement model includes item reliability, internal consistency, or construct reliability, average variance extracted, and discriminant validity. The first three measurements are grouped in convergent validity. Item reliability can be determined by the factor loading (standardized loading) value. An indicator can be said valid if the factor loading value is above 0.7. Table 1 shows that the standardized loading factor of all studied variables are above 0.7 and hence can be said valid.

Table 1. Reliability item.

Latent Variable	Manifest Variables	Standardized Loadings
Fintech	Human resources	0.760
	Policy	0.903
	Data and information	0.824
	Technology	0.922

The R-Square can be used to see if an exogen latent variable has a substantive influence on endogen latent variable. The R-Square value of 0.75, 0.50, and 0.25 can be interpreted as strong, moderate, and weak respectively. Table 2 shows that the influence was weak.

Table 2. R-Square.

	R Square
Fintech	0.260

A PLS model can also be evaluated using Q^2 predictive relevance. A model can be said to have predictive relevance if $Q^2 > 0$. Table 3 shows the research model does not predictive relevance.

Table 3. Predictive relevance (Q^2).

Construct	Q^2	Note
Fintech	-.475	>0

Table 4 presents the effect size of each of the studied variables. Human resources and policy seem to have small effect size while the other two variables have medium effect size.

Table 4. Effect size (f^2).

Variable	Fintech	Note
Human resources	0.023	Small
Policy	0.017	Small
Data and information	0.148	Medium
Technology	0.175	Medium

Both measurement and structural models can be validated by Goodness of Fit (GoF) test. This test can be performed using the following formula:

$$\begin{aligned} \text{GoF} &= \sqrt{\text{Com} \times R^2} \\ &= \sqrt{0.112 \times 0.260} \\ &= \sqrt{0.029} \\ &= 0.171 \end{aligned}$$

The result shows that the model has a small goodness of fit.

Table 5. Output inner weight.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (IO/STERR)	PValues
Human resources → Fintech	0.389	0.394	0.160	2.436	0.015
Policy → Fintech	0.346	0.325	0.157	2.194	0.029
Data and information → Fintech	0.409	0.400	0.185	2.211	0.027
Technology → Fintech	0.380	0.376	0.136	2.790	0.005

Table 5 presents the output inner weight, based on which it can be concluded that human resources had positive influence on fintech with an observed t of 4.908, higher than the critical t of 1.96 at significance level of 5%. Using the same significance level, the other three variables, policy, data and information, and technology, also positive influence on fintech with the observed t of 2.179, 7.708, and 7.708 (> 1.96) respectively.

3.1. Influence of human resources on fintech

This study has found that human resources have positive influence on fintech. This implies that fintech business should be equipped with reliable and qualified human resources [16]. These human resources are expected to demonstrate scientific data processing skills to provide services according to the customer needs and characteristics. Indonesian digital economy is restricted with limited human resources [17]. Therefore, it is down to higher education institutions to respond to this challenge.

3.2. Influence of policy on fintech

Policy was found to have positive influence on fintech. This confirms the finding of a previous study suggesting that strong and healthy supervision is required for the development of fintech [7]. However, Fintech supervision by regulators in Indonesia is considered to be limited to just registering fintech organizers [2]. Fintech firms seem to be let play in a dark zone. A more optimal supervision is required. This can be done by issuing favorable policy that can encourage fintech firms to register themselves. The clarity of regulations related to collaboration between fintech firms and other financial institutions are also necessary. In addition, there needs to be tax incentives, especially for fintech engaged in productive funding sectors that can provide greater economic effects. A study conducted by Institute for Development of Economics and Finance (INDEF) and Indonesian Fintech Association (Aftech) reported that fintech in Indonesia managed to increase GDP by IDR 25.97 trillion both directly and indirectly and open employment opportunities.

The government has provided a favorable regulatory environment for fintech since the 2008 financial crisis. However, the government should encourage fintech innovation and facilitate global financial competitiveness development; like what Singapore has done, by providing friendly regulations for online payment service providers [10]. Favorable regulations allow fintech firms to provide economical financial services.

In Indonesia, fintech is becoming more and more popular. In January 2018, fintech users in Indonesia were around 260,000. This is made possible by fintech regulations released by Bank Indonesia that ensure fintech providers and users to carry out various financial activities safely.

3.3. Influence of data and information on fintech

The finding of this study that data and information had influence on fintech is in line with that of a previous study suggesting that data is the main reference for lending companies to quickly realize financial inclusion in underbanked communities on a large scale [15]. Innovatively, lending companies assess the credit worthiness of unique data that is not included in traditional bank compliance requirements [18]. Although conventional scoring and human judgment cannot be underestimated, building software that can make information-based decisions from a variety of alternative data will clearly expand opportunities for the Indonesian market to gain access to loans anywhere and anytime [5].

3.4. Influence of technology on fintech

This study has found that technology had influence on fintech. This is justified by a previous study indicating that technologies such as social media, big data, cloud computing, artificial intelligence, smartphones and cellular services provide favorable environment for fintech startups to create fast innovative services [12]. Big data analytics can be used by fintech startups to provide unique personalized services to customers, and cloud computing can be used by cash-strapped fintech startups to use web-based services at a lower cost than the cost of developing in-house infrastructure. The algorithmic trading strategy can be used as the basis for robo advisors in wealth management at a much lower cost than traditional wealth management services. Social media can facilitate crowdfunding and peer-to-peer lending services [9]. Cellular network operators can also provide low-cost infrastructure for developing fintech services, such as cellular payments and cellular banking. Fintech can facilitate the Indonesian people in conducting various financial activities, both transactions and investments. Given the high number of users, it is not impossible that in the future there will be a variety of new fintech innovations [8].

4. Conclusion

The findings of this study lead to a conclusion that small and medium industries are not anywhere ready to implement fintech due to their limited technological infrastructure, data and information, and human resources. In addition, the existing regulation and governmental policy do not seem to support fintech application in small and medium industries. This can be seen from the factor loading value of each indicator in the PLS model. Therefore, improvement to these factors are required to realize Society 5.0.

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