

An integrated model for empirically testing sharia fintech adoption

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Abstract—The development of sharia FinTech in the Non-Bank Financial Industry (IKNB) is proliferating. Understanding the crucial factors in the acceptance of sharia FinTech technology is very important to support success in this business platform. This study investigates the factors that drive the intention of adoption sharia FinTech based on the model that integrated TAM, TPB, and prior research. This research framework consists of three dimensions, i.e., implementation, technological, and individual context. The results of this study indicate that interpersonal influence and perceived usefulness have significant effects on sharia FinTech intention. Compatibility has a positive effect on perceived usefulness and perceived ease of use. Furthermore, perceived ease of use has a positive effect on internet self-efficacy but has no effect on attitude and sharia FinTech intention. Meanwhile, the individual context has no direct effect on sharia FinTech intention. Several exciting implications are also discussed. This study contributes to extend the TAM and TPB models in the area of sharia FinTech as a new research platform that needs to be further developed.

Keywords—Integrated model, Sharia, Fintech

1. Introduction

The Islamic finance industry in Indonesia shows positive growth in line with the phenomenon of Halal Lifestyle. Sharia FinTech is one of the fast-growing sectors with substantial market share opportunities. Based on PT Telkom's FinTech Business Study [1], Indonesia is a potential market share for sharia FinTech with 88.8% Muslim population and 64% included in the unbanked category. Based on data from the Indonesian Shariah FinTech Association (AFSI), it is predicted that the distribution of FinTech loans will increase to reach Rp300 billion by the end of 2019. Sharia FinTech industry continues experiencing rapid development and the potential to be developed. However, there are no regulations that specifically manage the implementation of sharia FinTech. The existing rules are only for general FinTech services, i.e., OJK Regulation No. 77 / POJK.01 / 2016 concerning peer to peer (P2P) lending.

The success of FinTech's sharia business depends on consumer acceptance of the technology. Therefore, it is crucial to explore the antecedents that encourage consumers to adopt Sharia FinTech. Previous studies examined the acceptance model of FinTech technology using TAM [2], [3]. Empirical studies in the context of sharia FinTech are still limited. Prior studies that examined sharia FinTech included acceptance of Sharia FinTech technology based on TAM and TPB [4], [5], the role of start-up sharia FinTech [6], development strategy [7] and sharia FinTech P2P Lending mechanism [8]. However, there is no prior research that explores the factors that influence consumers to adopt Sharia FinTech comprehensively.

Along with the increasing number of sharia FinTech start-ups in Indonesia on various platforms, it is crucial to investigate the factors that encourage individuals to use sharia FinTech products, especially in privacy concern issues. Sharia FinTech companies should consider attracting potential market share by formulating

an appropriate strategy to achieve the success of the sharia FinTech business. Therefore, this study is relevant and exciting because it investigates the antecedent of the intention to use sharia FinTech, which raises the issue of customer privacy data security based on a comprehensive theoretical model, i.e., implementation, technological and individual context.

2. Method

2.1. Research model and hypothesis

The Technology Acceptance Model (TAM) [9], the extended Theory of Planned Behaviour (TPB) [10], and some prior studies are used as the guiding framework for developing the integrated model. We developed an integrated framework based on Chau and Hu [11] to investigate the adoption and intention to use sharia FinTech products. This research model consists of three dimensions (i.e., implementation, technological, and individual context).

2.1.1. Implementation context

The implementation context is defined as the specific environmental conditions of the technology to be implemented [11]. The existing research suggested that the implementation environment for a particular technology could be carried out based on two perspectives. Both perspectives are compatibility [11], [12] and interpersonal influence [13].

Compatibility is defined as the degree to which an innovation matches the values, practices, and needs of potential adopters [14]. In this study, compatibility is consumer perception of the level of use of Sharia FinTech that appropriates their work style and following their values and life principles. Compatibility has an indirect effect on user technology acceptance through perceived usefulness and perceived ease of use [11]. Consumers will be more familiar with the use of technology when the technology is considered as something compatible with their work style. Likewise, consumers will consider technology as easy to use when their application does not require much learning. Accordingly, we hypothesis:

H1. Compatibility has a positive effect on perceived usefulness (PU).

H2. Compatibility has a positive effect on perceived ease of use (PEoU).

H3. Compatibility has a positive effect on sharia FinTech intention.

Interpersonal influence is defined as consumers' perceptions of the relevant opinions of friends, family, and colleagues on the use of sharia FinTech products. Influence from friends, family, and colleagues is closely related to subjective norms. The results of previous studies indicate that the more powerful interpersonal influence will encourage individuals in the intention to use technology [13].

H4. Interpersonal influence has a positive effect on attitude.

H5. Interpersonal influence has a positive effect on sharia FinTech intention.

2.1.2. Technological context

The technological context focuses on the characteristics of Sharia FinTech technology (i.e., perceived usefulness, perceived ease of use, and brand and service trust). The perceived usefulness is important in making decisions to use technology directly or indirectly through attitude. When individuals feel the benefits of technology to meet their needs, their intention to use technology will become stronger [9], [15].

H6. Perceived usefulness has a positive effect on attitude.

H7. Perceived usefulness has a positive effect on sharia FinTech intention.

The capabilities and abilities of individuals in the operation of technology are different. Complex technology can reduce the intention to use it. The ease of use will increase the capacity of individuals to use

applications and services in the internet domain so that it will increase self-efficacy. Besides, in the context of FinTech's sharia that is not well-known, the quality of its services and website, which indicates reputation, will influence the intention to use Sharia FinTech [2]. Companies that could provide a sense of security and trust in financial transactions will encourage individuals to use their products.

H8. Perceived ease of use has a positive effect on attitude.

H9. Perceived ease of use has a positive effect on internet self-efficacy.

H10. Perceived ease of use has a positive effect on sharia FinTech intention.

H11. Brand and service trust has a positive effect on sharia FinTech intention.

2.1.3. Individual context

Each individual has autonomy in themselves to decide on the use of Sharia FinTech products. It indicates that the use of Sharia FinTech technology is voluntary. Therefore, the use of Sharia FinTech products is more dependent on individual perception and evaluation. The results of previous research revealed that individual attitudes, internet self-efficacy, and privacy concerns are important determinants of intention to use technology [16]–[18]. Accordingly, we hypothesize:

H12. Attitude has a positive effect on sharia FinTech intention.

H13. Internet self-efficacy has a positive effect on sharia FinTech intention.

H14. Privacy concern has a negative effect on sharia FinTech intention.

2.2. Instrument

This study consists of nine variables in which items on the questionnaire were primarily adopted from prior studies with modification to suit the context of sharia FinTech. Each construct in TAM (PEoU, PU, and attitude) measure with an instrument developed by the prior study [9], [19], items on brand and service trust [2], compatibility [14], interpersonal influence [20], internet self-efficacy [17], privacy concern [21] and sharia FinTech intention [11]. As the respondents were Indonesian, we use the back translation method to ensure translation validity. All items in the questionnaire measured using a five-point Likert scale.

2.3. Data Collection

An online survey was conducted to test the hypothesis. The respondents of this study were customers sharia FinTech products in Indonesia. A survey hyperlink was placed on the group on social media like Facebook and WhatsApp. The convenience sampling method was used to collect the data. The sample in this study were 42 respondents who had used sharia FinTech products. Fifty-five percent of the respondents were male. The majority of respondents (76%) were 21- 30 years old. About 58% of the respondents had less than six months of experience in using sharia FinTech. Sharia FinTech products are dominated by Paytren (81%), Investree Syariah (12%), and SharQ (7%).

3. Result and Discussion

3.1. Measurement model

Based on the test results of convergent validity and reliability, all items met the requirements except for the internet self-efficacy variable and excluded from the analysis. They are ISE2 (0.623), ISE3 (0.672), ISE4 (0.681), and ISE 5 (0.694). The results of testing the validity and reliability after removing invalid statement items, all statement items on the variable have a loading factor value above 0.7 and AVE values higher than 0.5. The reliability test shows the value of composite reliability and Cronbach's alpha > 0.7 in all constructs. Thus it confirming the validity and reliability measure.

3.2. Structural model

The results of the structural model testing show that the R^2 value on the intention to use sharia FinTech is 69%. It indicates that the research model is fit. While in the technological context, the value of R^2 in perceived usefulness has the highest value of 77.4% and the perceived ease of use of 26.4%. The value of R^2 in the individual context shows 38.5% in internet self-efficacy and 63.1% in attitude.

3.3. Hypotheses testing

We tested the proposed hypothesis using SEM-Partial Least Square with SmartPLS 3. Based on statistical tests conducted on fourteen hypothesis, which were proposed as antecedents of intention to use sharia FinTech and seven hypotheses were supported. Implementation and technological context directly influence the intention of using sharia FinTech, meanwhile individual context have no significant influence.

Table 1. Hypotheses testing

Hypotheses		Path coefficient	t-statistic	p-value	Decision
H1: COM→ PU	(+)	0.874	17.830	0.000***	Supported
H2: COM→ PeoU	(+)	0.554	5.246	0.000***	Supported
H3: COM→ SFI	(+)	-0.075	0.408	0.342	Not Supported
H4: IPI→ ATT	(+)	0.298	1.718	0.043*	Supported
H5: IPI→ SFI	(+)	0.398	2.030	0.021*	Supported
H6: PU→ ATT	(+)	0.455	2.105	0.018*	Supported
H7: PU→ SFI	(+)	0.516	2.164	0.015**	Supported
H8: PEoU→ ATT	(+)	0.109	0.863	0.194	Not Supported
H9: PEoU→ ISE	(+)	0.639	6.981	0.000***	Supported
H10: PEoU→ SFI	(+)	-0.083	0.484	0.314	Not Supported
H11: BST→ SFI	(+)	-0.350	1.033	0.151	Not Supported
H12: ATT→ SFI	(+)	0.275	1.137	0.128	Not Supported
H13: ISE→ SFI	(+)	0.233	0.914	0.180	Not Supported
H14: PC→ SFI	(-)	0.053	0.363	0.358	Not Supported

Noted: COM= *compatibility*; IPI= *interpersonal influence*; PU= *perceived usefulness*; PEoU= *perceived ease of use*; BST= *brand and service trust*; ATT= *attitude*; ISE= *internet self-efficacy*; PC= *privacy concerns*; SFI= *sharia FinTech intention*

* p -value<0,1; ** p -value<0,05; *** p -value<0,000

3.4. Discussion

The goal of this research was to investigate the factors that drive customer intention to use Sharia FinTech products. The integrated model consists of three dimensions, i.e., implementation, technological, and individual context. This study confirms that perceived usefulness (PU) and interpersonal influence is the key role determining factor in technology acceptance, which in turn on the intention to use sharia FinTech [11],[5],[17]. The perceived usefulness also has a positive effect on attitude. It indicates that individuals will accept and adopt sharia FinTech technology when it provides the desired benefits to help facilitate their financial business. However, attitude has no significant effect on the intention to use sharia FinTech and support the previous research [22]. But, inconsistent with prior research [11], which confirms that attitudes directly influence the acceptance of telemedicine technology by professionals.

The context of implementation directly affects technological and individual contexts. However, the construct in the individual context has no direct effect on the intention to adopt sharia FinTech. Compatibility was found to have an indirect effect on the intention to use sharia FinTech through perceived usefulness, but it was not significant directly on the intention to use sharia FinTech. This result is consistent with previous research, Mutahar et al. [15]. This revealed that compatibility is necessary but not sufficient to encourage the intention to use Sharia FinTech. The findings of this study indicate compatibility effects indirectly on internet self-efficacy through perceived ease of use. This result has an interesting implication

that Sharia FinTech must have compatible and easy technology in its operation which further gives individuals the ability to use application services through the website. However, proficiency in operating internet and website technologies has not been able to encourage individuals to adopt Sharia FinTech.

Brand and service trust had non-significant on the intention to adopt sharia FinTech. Based on Karim Consulting Indonesia, financial market segmentation in Indonesia is dominated by the floating mass-market group. This group is a person who usually utilizes both conventional and sharia service facilities. They are attracted to financial products that offer some benefit. Moreover, their knowledge about Islamic Financial is not exhaustive, and these consumers will usually consider suggestions from their closest people, i.e., family, college, and best friend when deciding to use the product. Consequently, interpersonal influence had a significant on the intention to use Sharia FinTech products.

Privacy concerns had no significant influence on the intention to adopt sharia FinTech technology. Most of sharia FinTech's products in this study are Paytren, which is included in the micropayment category. Customers consider disclosing personal information in Paytren, such as phone numbers, full name, identity card, and e-mail address is not high-risk information if publicly accessible. In contrast with another type of sharia FinTech, such as P2P lending. In P2P Lending platform, consumers requires more complete input of personal data. Thus, consumers will have more serious privacy concerns in P2P lending platform. Furthermore, there are no rules from the government regarding the protection of personal data of consumers, especially in the context of FinTech in Indonesia. These results support the previous study [23] that shows perceived security does not directly influence the continuous use of mobile FinTech payment services but through confirmation and perceived usefulness.

4. Conclusion

This study revealed that the individual context (i.e. attitude, internet self-efficacy, privacy concern) has no significant directly encourage the intention to adopt sharia FinTech products, especially for micropayment platform. Perceived usefulness is the most critical factor that drives individuals to adopt sharia FinTech. This study has a limitation that the sample is dominated by Paytren consumers, a type of FinTech that is classified as payment, clearing, and settlement. The results of the study may differ in other types of FinTech that have more exceptional risk characteristics

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