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Fintech Adoption Drivers for Innovation for SMEs in Indonesia

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Abstract: The rapid evolution of technology and a large number of smartphone users are transforming the way the masses access financial services. Fintech companies consistently innovate in developing customized products and services for users and SMEs to increase financial access and inclusiveness to achieve the Indonesian national financial inclusion target of 90 percent by 2024. Access to digital financial products via Fintech contributes to greater financial inclusion for SMEs, particularly during the COVID-19 pandemic, which restricted economic activities. Using an extended TAM model, this study explores the driving factors of Fintech adoption for Indonesian SMEs during the COVID-19 outbreak. Data analysis of 415 respondents was conducted utilizing Smart-PLS 3.0 software. The findings confirm perceived usefulness, perceived ease of use, government support, trust, and user innovativeness to have a direct positive effect on the intention of SMEs to adopt Fintech. The result also reveals that financial literacy indirectly correlates with Fintech adoption mediated by user innovativeness. This indicates that Fintech could contribute to bridging financial inclusion where SMEs with lower financial literacy can utilize financial products and services via Fintech. This is a positive contribution of Fintech for SMEs in developing economies. The present study suggests that policymakers could foster the expansion of Fintech business infrastructure to improve access to SME financial services.

Keywords: digitization in finance; Indonesian SMEs; extended TAM; Sustainable Development Goals 10; SME Innovativeness

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1. Introduction

Financial inclusion has become a major topic across the globe, especially after the 2008 global financial crisis. The G20 Leaders' Summit in Pittsburgh in 2009 developed the G20 Principle for Innovative Financial Inclusion to accelerate financial access for the unbanked population and reinforce the financing strategy for successful small and medium enterprises (SMEs). Financial access equality also aligns with the United Nations Sustainable Development Goals (UN SDGs) agenda, specifically alleviating extreme poverty and increasing shared prosperity. The World Bank report (2021) [1] defined financial inclusion as accessing valuable and inexpensive financial services to meet people's needs.

Global awareness to improve financial inclusion has shown a positive impact. By 2021, around 71% of adults in developing countries will have formal financial access, an increase from 42% in 2011 [2]. This achievement, however, remains a challenge for the 1.4 billion people who currently do not have access to formal or semi-formal financial services, especially in developing countries. Indonesia, for instance, ASEAN's largest economy with a gross domestic product (GDP) of USD 1.1 trillion in 2021, has a 100 million

unbanked population in the same period. Regarding SMEs, only 39% of micro-enterprises and 50% of medium-sized enterprises utilize financing services from banks [3]. In fact, Liu et al. [4] explain that SMEs with access to financial services can increase business growth more than those without access to finance.

In seeking to improve financial access, the Indonesian government has released Presidential Decree No.114/2020, targeting the achievement of financial inclusion. Further, the proliferation of technology-based financial service companies (Fintech) assists the government in accelerating access to financial services. The Bank of Indonesia (BI) is a government body responsible for Fintech business in Indonesia. The Bank of Indonesia defines Fintech as technology optimization in a financial system that generates products, services, technologies, or new business models that affect monetary and financial stability, efficiency, smoothness, security, and payment system reliability. In addition, the recent COVID-19 outbreak has revealed that people can be immediately tech-educated and driven to manage their finances digitally. A recent study by [5] found that the Fintech market in Indonesia had no significant impact during a crisis due to the pandemic. The COVID-19 pandemic and lockdown policies have increased the number of people using Fintech apps [6].

Several pieces of literature have empirically revealed the importance of Fintech in facilitating financial access and providing benefits to SMEs. Fintech companies' technological sophistication accelerates the provision of financial products at relatively low costs. Fintech companies lead to the financial health of business users [7], having a positive impact on increasing revenues [8], supporting company innovation efficiency [9], reducing business operational uncertainty [10], lowering bank credit risk [11], and having a positive impact on business profitability [12]. The potential benefits of adopting Fintech for SMEs need to unleash to support sustainable business growth in the digital era. The relatively low adoption of Fintech for Indonesian SMEs is the motivation for this research.

Several empirical studies have linked Fintech adoption from the perspective of individual users in Indonesia [13,14]. However, it still draws little attention to SMEs, even though SMEs significantly contribute to the Indonesian economy. For example, Najib et al. [15] explore Fintech adoption determinants for 184 Indonesian SMEs, demonstrating that performance expectations, social effect, facilitation situations, knowledge, safety perceptions, and price values all impact the behavioral intention in adopting financial-based technology. This study investigates Fintech adoption drivers for SMEs in Indonesia by extending TAM with financial literacy, user innovativeness, government support, and trust during the COVID-19 pandemic in Indonesia.

Understanding factors that lead to Fintech adoption plays a pivotal role in accelerating financial access for Indonesian SMEs. Policymakers should consider the Fintech adoption drivers to design the cutting-edge strategy in promoting Fintech services to scale up financial access that is close to and in line with the needs of SMEs. In addition, cashless transactions can speed up business processes while reducing the risk of spreading the virus [16]. Despite the paucity of literature, the present study investigates Fintech adoption for SMEs in Indonesia during the COVID-19 outbreak.

The novelty extends the TAM theory by investigating the correlation between perceived ease of use, perceived usefulness, financial literacy, user innovativeness, government support, trust, and behavioral intention in adopting Fintech across Indonesian SMEs. To the authors' knowledge, this study is among the first to tap the drivers of Fintech adoption for SMEs in Indonesia during the COVID-19 pandemic. The subsequent section of this study, Section 2, provides a literature review and proposes hypotheses. Section 3 describes the methodology, including the data collection procedure, and Section 4 summarizes the discussion of the research findings. Section 5 presents the conclusions of the study. Finally, Section 6 depicts some implications, recommendations, and limitations of the study.

2. Literature Review and Proposed Hypotheses

Even though TAM has been applied in many previous studies and has proven empirically reliable to examine technology adoption [17,18], Shachak et al. [19] documented that

other dimensions need to be explored to provide a comprehensive perspective in adopting new technology. Therefore, several studies extend TAM with several new variables, such as technology anxiety and family support [19], social influence and perceived risk [20,21], and self-efficacy and perceived playfulness [22], to name a few. With reference to previous literature and recommendations from Fintech practitioners in Indonesia, this study incorporates several variables, including financial literacy, user innovativeness, government support, and trust, as additional dimensions of TAM (perceived usefulness and perceived ease of use).

2.1. Perceived Ease of Use (PEU)

The concept of perceived ease of use (PEU) refers to the effort required by an individual to use new technology [23]. PEU is defined in this study as the effectiveness with which Fintech services are used, including examining the Fintech service interface and the simplicity by which Fintech services may be accessed via various types of devices. It has been scientifically documented that user-friendly dashboards and user interface designs assist consumers in interacting with financial services and trigger the process of adopting new technologies [14,24]. The previous study has revealed that PEU has a positive impact on Fintech adoption [25–27]. Based on the above empirical study, the following hypotheses are initiated:

Hypothesis 1a (H1a). *Perceived ease of use (PEU) has a direct positive effect on SMEs adopting Fintech services.*

Hypothesis 1b (H1b). *There is an indirect positive impact between perceived ease of use (PEU) and Fintech adoption mediated by perceived usefulness (PU).*

2.2. Perceived Usefulness (PU)

According to [23], perceived usefulness (PU) refers to the extent to which technology can boost performance. This variable is essential for affecting the continuance of technology adoption [28]. In this study, PU is determined to measure how Fintech adoption can meet user needs, such as time savings and advantages. Previous studies have found a positive correlation between PU and technology adoption [14,29]. However, Mufarih et al. [30] found PU is not significant in affecting digital banking adoption. The following hypothesis is offered based on prior research as follows:

Hypothesis 2 (H2). *Perceived usefulness (PU) positively impacts Fintech adoption.*

2.3. Financial Literacy (FL)

Financial literacy is commonly defined as an awareness and understanding of basic finance, which covers financial aptitude in terms of money management and financial planning [31]. This study refers to [32] the measurement of financial literacy by asking about compound interest, inflation, and risk diversification. Previous research conducted by [33,34] shows a positive correlation between financial literacy and Fintech adoption. Therefore, the study hypothesizes that:

Hypothesis 3a (H3a). *Financial literacy (FL) has a direct positive effect on Fintech adoption.*

Hypothesis 3b (H3b). *Financial literacy (FL) positively influences Fintech adoption mediated by user innovativeness (UI).*

2.4. User Innovativeness (UI)

User innovativeness (UI) is an attitude that results in producing new ideas [35]. The study focuses on identifying whether an SME practitioner with innovative behavior influences the adoption of SMEs of digital financial services. In this study, user innovation is defined as the willingness to explore new technologies, being early adopters of cutting-edge technology, and being eager to experiment with Fintech services. Prior literature has shown that user innovation correlates positively with technology adoption [14,27,36]. Based on the prior literature, the proposed hypothesis is as follows:

Hypothesis 4 (H4). *User innovativeness has a positive impact on Fintech adoption.*

2.5. Government Support (GS)

Government support (GS) improves the development of favorable ecosystems for the Fintech sector through the innovation office, and a regulatory sandbox is needed [37]. According to [38], government support is the central pillar of Fintech development. Various studies demonstrate that government support positively impacts Fintech adoption [24,39,40]. In this study, government support was associated with infrastructure development, legislation, and regulation that promote the Fintech industry's growth and enhance the development of the network connection. Thus, the following hypothesis is proposed:

Hypothesis 5a (H5a). *Government support (GS) has a direct positive effect on SMEs using Fintech services.*

Hypothesis 5b (H5b). *Government support (GS) has an indirect positive influence on Fintech adoption mediated by user innovativeness (UI).*

2.6. Trust (TR)

Trust (TR) is the foundation of financial services [41]. Cojoianu et al. [42] illustrate that while trust in incumbent financial services declines in one location, Fintech services develop in the same region. In the context of technology adoption, trust correlates with reducing anxiety which then increases consumer confidence to adopt new technology. This survey assesses user trust related to personal data protection and security in Fintech services. According to previous studies, trust positively affects Fintech adoption [43,44]. Hence, concerning previous literature and research frameworks Figure 1, we hypothesize that:

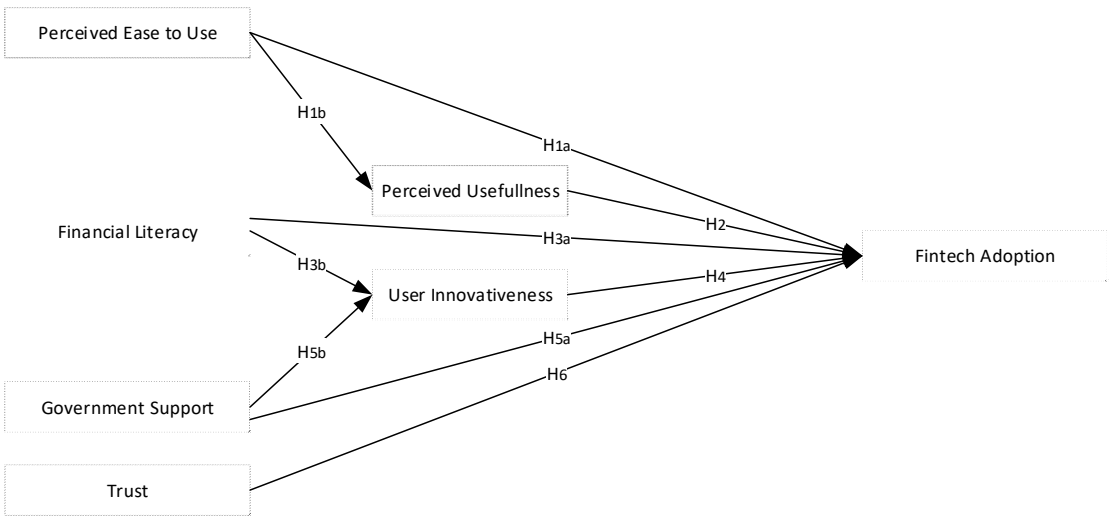

Figure 1. Research Frameworks.

Hypothesis 6 (H6). *Trust (TR) has a positive impact on Fintech adoption.*

3. Methodology

This study employs quantitative research with the Structural Equation Modeling (SEM) technique. The data uses a purposive sampling approach with criteria such as SME owners in Indonesia and familiarity with Fintech services. The sample was obtained assisted by SME associations and Fintech practitioners. The sample research area followed the geographical dispersion of SME Fintech users shown in the sample data-distribution map image. The majority of the sample was from the capital city (Jakarta), followed by the surrounding provinces.

Data collection was conducted online between August 2021 and April 2022, while a pilot survey to test validity and reliability was analyzed in July 2021 on 30 respondents. Responses to the pilot survey's questions were utilized to improve the final survey questionnaire, particularly by changing unclear information in the measuring statements with more direct, unambiguous, and precise language. After that, 415 participants answered questionnaires and data sample distribution can be seen in Figure 2, and 407 final samples were selected for data analysis after data cleaning.

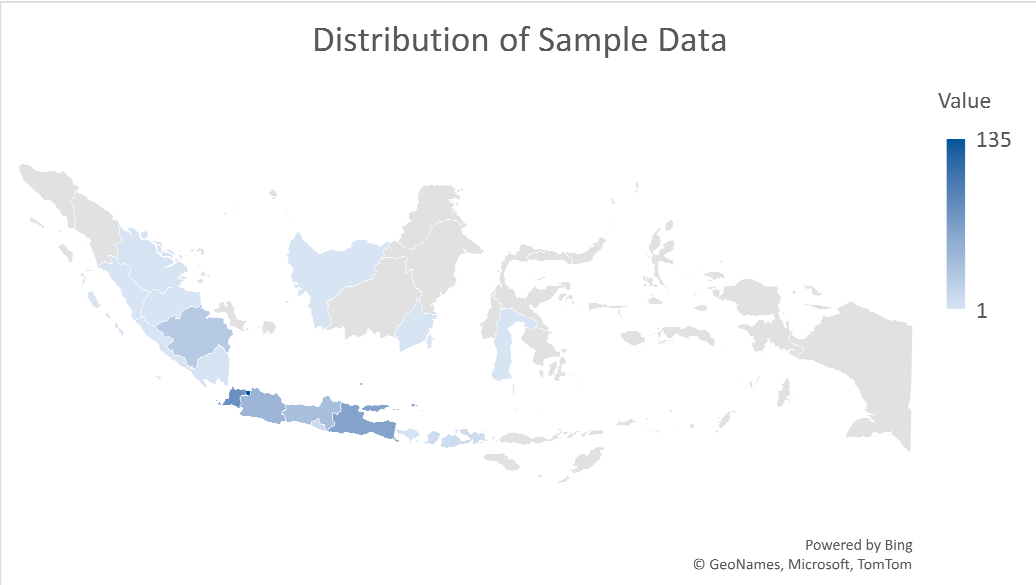

Figure 2. Data sample distribution.

The construct variables were evaluated on a 5-point Likert scale of 1 to 5, from 1 (strongly disagree) to 5 (strongly agree). The total respondents were defined by following several rules [45]. To avoid bias in SEM estimates, it was suggested that a minimum sample size be used. For example, Hair et al. [46] states that if the population is unknown, the minimum sample can be calculated by adding indicators and latent variables and then multiplying by 5.22 indicators plus 7 latent variables; the minimum sample size is 145 respondents. In addition, based on the G*Power software approach with a 95% confidence level powered at an estimated 0.80, 160 respondents are needed. A total of 415 respondents exceeded the required minimum sample size.

Utilizing the PLS-SEM approach, the Fintech adoption drivers were investigated by extending the TAM model (perceived ease of use and perceived usefulness) with several variables explained in the research frameworks Figure 1, such as financial literacy, user innovativeness, government support, and trust, as exogenous variables. The analysis covers two-stage assessments; first, construct validity and reliability of each indicator are used to test the measurement model; finally, a model fit to test the causal correlation between

latent variables. The question items of construct variables and indicator items are shown in Table 1.

Table 1. Variable description.

No	Construct Variable	References	Indicator	Indicator Code
1	Fintech Adoption	[35,47,48]	My company is willing to continue using Fintech services	FA1
			My company would like to use Fintech services soon	FA2
			My company will recommend Fintech services to our friends	FA3
2	Trust	[29,41–43]	My company believes in our financial security when using fintech services.	TR1
			My company believes our personal information is protected when using fintech services.	TR2
			In general, my company believes that Fintech services can be trusted	TR3
3	Perceived ease to use	[23,24,26,27]	It is easy to use Fintech services	FEU1
			the operation interface of Fintech is friendly and understandable	FEU2
			It is easy to have the device to use Fintech services (cellphone, APP, WIFI, and others)	FEU3
4	Perceived Usefulness	[23,29]	Using Fintech can meet my company's service needs	FPU1
			Fintech services can save time for my company	FPU2
			Fintech services can improve the efficiency of my company	FPU3
			Overall, Fintech services are useful to my company	FPU4
5	Financial Literacy	[31–33,49]	I have knowledge of compound interest	FL1
			I have knowledge of inflation	FL2
			I have knowledge of risk diversification	FL3
6	User Innovativeness (SME Innovativeness)	[14,27,36]	When I hear about a new product, my company looks for ways to try it	FI1
			Among our peers, my company is usually the first one to try a new tech product	FI2
			My company is experimenting with the latest Fintech services	FI3
7	Government Support	[38–40]	I believe the government supports and improves the use of Fintech services for SMEs	GS1
			I believe the government has introduced favorable legislation and regulations for Fintech services for SMEs	GS2
			I believe the government is active in setting up all kinds of infrastructure, such as the infrastructure telecom network, which has a positive role in promoting Fintech services	GS3

4. Results

4.1. Characteristics of the Respondents

Table 2 indicates that most respondents in this study are male (55.66%). Meanwhile, 72.2% of respondents are below 45 years old and have a Bachelor's degree (66.75%). Almost 50.6% of respondents have been doing business for more than 3 years and earned a monthly income of as much IDR 6–10 million (38.07%). More than 90% of respondents have experience with Fintech, and only 7.3% have never used Fintech services in the past month.

Table 2. Respondents' characteristics.

Characteristic	Criteria	Frequency (n = 415)	Percentage (%)
Gender	Male	231	55.66%
	Female	184	44.34%
Age	18–25	58	13.98%
	26–35	139	33.49%
	36–45	168	40.48%
	>45	50	12.05%

Table 2. *Cont.*

Education	High School	113	27.23%
	Diploma or Bachelor's degree	277	66.75%
	Masters or Doctorate degree	25	6.02%
Net Income	Lower than IDR 3 million	68	16.39%
	Between IDR 3–5 million	125	30.12%
	Between IDR 6–10 million	158	38.07%
	Higher than IDR 10 million	64	15.42%
Business Establishment	< 1 year	42	10.12%
	1–3 years	163	39.28%
	> 3 years	210	50.60%

4.2. Results of the SEM Analysis

The analyses follow several steps. First, the outer loading factor indicates convergent validity with the criteria that the value should be higher than 0.7. Almost all the construct variables show a value exceeding 0.7, except FA2 & FPU3. Second, assessing internal consistency reliability, a composite reliability metric with a 0.7 threshold value was applied. Table 3 shows that the composite reliability values of all constructs were more than 0.7, indicating strong internal consistency. The third step was assessing convergent validity; the average variance extracted (AVE) value of all constructs explained over 0.5, indicating the variables meet the validity test.

Table 3. Results of the measurement model analysis.

Construct	Outer Loadings	Cronbach's Alpha's	Composite Reliability	Average Variance Extracted (AVE)
Fintech Adoption (Intention)		0.769	0.896	0.812
FA1	0.911			
FA3	0.891			
Trust		0.782	0.873	0.696
TR1	0.840			
TR2	0.856			
TR3	0.806			
Fintech Perceived ease to use		0.755	0.859	0.670
FEU1	0.844			
FEU2	0.824			
FEU3	0.787			
Fintech Perceived Usefulness		0.777	0.871	0.692
FPU1	0.819			
FPU3	0.816			
FPU4	0.859			
Financial Literacy		0.769	0.867	0.685
FL1	0.797			
FL2	0.815			
FL3	0.869			
User Innovativeness		0.790	0.877	0.704
FI1	0.790			
FI2	0.859			
FI3	0.866			
Government Support		0.702	0.833	0.625
GS1	0.817			
GS2	0.847			
GS3	0.700			

Note: because Outer loadings factor under 0.7 "FA2 &FPU2" exclude form indicator.

In addition, the average variance extracted (AVE) was used with a value for each construct variable that should exceed 0.5. As shown in Table 3, AVE values for all the construct variables have exceeded 0.5. The fourth step was assessing discriminant validity. Different metrics can confirm that each construct is distinct from other constructs. Henseler et al. [50] suggested the heterotrait-monotrait ratio (HTMT) to test the discriminant validity, with a threshold value is 0.9 for a precise result. Table 4 presents that all HTMT scores were below 0.9.

Table 4. Discriminant validity heterotrait-monotrait (HTMT) values.

	FL	FA	FPU	GS	FEU	TR	FI
FL							
FA	0.363						
FPU	0.365	0.808					
GS	0.459	0.693	0.728				
FEU	0.286	0.734	0.849	0.763			
TR	0.443	0.721	0.708	0.724	0.717		
FI	0.732	0.578	0.409	0.530	0.437	0.454	

Note: The meaning of FA = Fintech Adoption; FL = Financial Literacy; FEU = Fintech Ease to Use; FPU = Fintech Perceived Usefulness; GS = Government Support; TR = Trust; and FI = User Innovativeness.

The next step is to estimate the structural model to explain the statistical significance through the path coefficient. Before that, the multicollinearity test must be analyzed with the criteria for the value of variance inflation (VIF) should be lower than 5 [16] Table 5 explains that all VIF values of the contract variables are below 5, so there is no multicollinearity between variables. In addition, Table 6 shows the value of R^2 is 51.8%, revealing that our research model has substantial and moderate explanatory power.

Table 5. Variance inflation (VIF) values.

Construct	VIF	Construct	VIF
Fintech Adoption (Intention)			
FA1	1.638		
FA3	1.638		
Trust		Financial Literacy	
TR1	1.604	FL1	1.488
TR2	1.831	FL2	1.565
TR3	1.545	FL3	1.844
Fintech Perceived ease to use		User Innovativeness	
FEU1	1.522	FI1	1.473
FEU2	1.583	FI2	1.900
FEU3	1.463	FI3	1.807
Fintech Perceived Usefulness		Government Support	
FPU1	1.546	GS1	1.376
FPU3	1.564	GS2	1.554
FPU4	1.802	GS3	1.303

Table 6. Coefficient of determination (R^2) values.

	R-Square	R-Square Adjusted
Fintech Adoption	0.518	0.511
Fintech Perceived Usefulness	0.481	0.479
Innovativeness	0.382	0.379

The path coefficient analysis to test the statistical significance of a causal link between indicators and construct variables was evaluated first, followed by bootstrapping with a sample of 5000. The result is depicted in Figure 3.

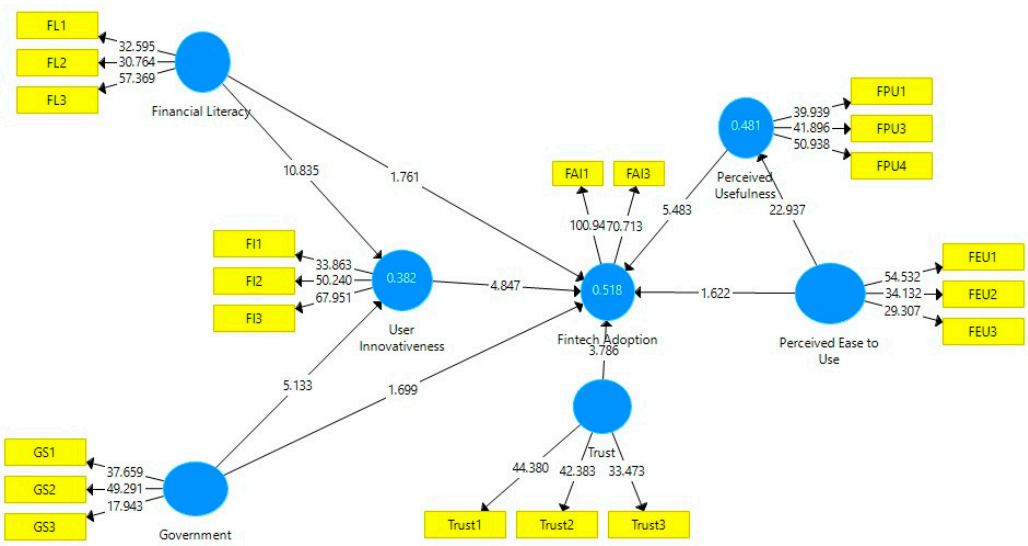

Figure 3. Results of hypotheses tests.

Furthermore, direct effect hypotheses and three indirect effect hypotheses are presented in Table 7, which reveals that five out of six direct hypotheses are supported except financial literacy (H3a). Perceived ease to use (H1a; β = 0.34), perceived usefulness (H2; β = 0.34), user innovativeness (H4; β= 0.24), government support (H5a; β = 0.15), and trust (H6; β = 0.21) have a significant and positive direct effect on Indonesian SMEs in adopting Fintech, followed by H1a, H2, H4, H5a, H6, are supported. In contrast, financial literacy has an insignificant direct impact on adopting Fintech services for SMEs in Indonesia.

Table 7. Hypothesis testing.

	Hypotheses	Original Sample/β	*p*-Value	Decision
H1a	: PEU → Fintech Adoption	0.334	0.000 ***	Supported
H1b	: PEU → PU → Fintech Adoption	0.233	0.000 ***	Supported
H2	: PU → Fintech Adoption	0.336	0.000 ***	Supported
H3a	: FL → Fintech Adoption	0.038	0.330	Not supported
H3b	: FL → UI → Fintech Adoption	0.118	0.000 ***	Supported
H4	: UI → Fintech Adoption	0.241	0.000 ***	Supported
H5a	: GS → Fintech Adoption	0.148	0.006 ***	Supported
H5b	: GS → UI → Fintech Adoption	0.059	0.001 ***	Supported
H6	: TR → Fintech Adoption	0.212	0.000 ***	Supported

Note: *** represent significance at 1% and 99% level of confidence.

Table 7 also outlines the findings concerning the indirect relationship between financial literacy and Fintech adoption for SMEs in Indonesia ((H3b; = 0.118), despite the fact that the results of the analysis indicate the significance of SME innovation as a mediator between financial knowledge and financial technology adoption. User innovativeness may serve as a mediating variable between government support and Fintech adoption, which has been shown to be highly positively and indirectly associated (H5b; β = 0.06). Furthermore, government support is found to have a positive and indirect relationship with behavioral intention to adopt Fintech (H5a; β = 0.148).

Surprisingly, financial literacy is not directly related to Fintech adoption for SMEs in Indonesia. This finding indicates that even though SMEs have an understanding of financial literacy, this does not directly affect the intention to adopt digital financial services;

however, SMEs' innovation is required as a bridge to Fintech adoption. As a result, the government needs to establish an ecosystem that facilitates SMEs' innovation and creativ-ity in order to encourage them to adopt Fintech.

The R^2 represents the explanatory power of the dependent constructs of the research model. In other words, R^2 can also assess how well the model is expected to explain and predict future outcomes; therefore, a higher R^2 score can increase the correct prediction probability. This model depicts a substantial variant in adopting Fintech for Indonesian SMEs (R^2 = 0.518, Table 6), revealing that ease of use, perceived usefulness, trust, government support, and user innovativeness explain 51.8% of the variation in Fintech adoption. The study also explores the role of user innovation as a mediating variable between government support and financial literacy in adopting Fintech, accounting for 38.2% of the variation in Fintech adoption.

5. Discussion

5.1. Finding Fintech Adoption for SMEs

This study developed and explored Fintech adoption driving factors and the role of innovation in Indonesian SMEs. To achieve this goal, the constructs embedded within the hybrid framework, such as external issues (government support and financial literacy) and internal issues (user innovativeness and trust), integrated with the TAM model (perceived ease of use and perceived usefulness), are employed.

Descriptive findings explained that the characteristics of Indonesian SMEs owners who are less than 45 years old (72.2%) constitute the majority of SMEs familiar with and experienced in using Fintech; this is in line with research from [51] that explains the rapid development experienced by Indonesia, with internet users reaching 73.7% of the population of Indonesia. SMEs need solutions or alternatives that can facilitate financing in conducting expansion, reorganizing, or sustaining their business, especially during and post-COVID-19 pandemic. The Indonesian government developed a Fintech ecosystem with solid regulation and innovation to improve infrastructure technology to support SME financing. The COVID-19 pandemic has forced business owners to change behavior and adapt to digital technology, including optimizing non-cash transactions via Fintech to maintain business sustainability.

The study findings show that Fintech's perceived usefulness directly impacts SMEs' intention to use Fintech during the pandemic. These results are consistent with the technology acceptance model, which states that someone will consider technology from the view of technology usefulness in developing a business. These results align with previous studies [14,52,53]. Besides that, perceived ease of use [52,54], government support [4,55–57], trust [32,53], and user innovativeness [14,22,52,58] had a significant direct impact on SMEs' Fintech adoption. Surprisingly, financial literacy did not directly impact Fintech adoption. Our findings show that financial literacy indirectly impacts Fintech adoption. These findings explained that external factors such as financial literacy do not directly affect Fintech user adoption. Still, financial literacy can greatly contribute to improving SMEs' business with innovativeness from business actors.

Another finding, internal factors such as trust, innovativeness, perceived ease of use, and perceived usefulness require support from the government. Encouragement through financial literacy to increase the acceleration of the use of Fintech services, especially with government support to minimize the main issues in the use of financial technology, is essential to be implemented. The increasing security and regulations, with government security data protection, will promote the use of financial technology to support SMEs and create business ecosystems more comfortable in maximizing the role of financial technology for business development and sustainability.

Indonesia is the 4th largest population, with approximately 270 million people, and separated by more than 16,000 islands, providing an opportunity for Fintech to provide financial access. The opportunity for Fintech to develop market share and reach the unbanked population in rural areas is often constrained by technology infrastructure, which

is still concentrated in big cities. Therefore the government needs to build technology infrastructure as a way to accelerate the growth and innovation of SMEs through inexpensive and near real-time financial services offered by Fintech.

5.2. Fintech in Supporting Financial Innovation for Indonesian SMEs

SMEs, as the backbone of the Indonesian economy, continue to confront barriers to accessing formal financial services. The major barrier for SMEs to access financial products is a combination of factors ranging from higher criteria for financial instructions to collateral. From the perspective of financial institutions, lending to SMEs not only requires substantial expenses but also has a high risk of default relative to repayment [59]. Furthermore, according to OJK, some financial institutions do not focus on SMEs as the primary target market, which is a hindrance to expanding financial inclusion. Therefore, openness and innovation are essential for SMEs, the majority of which are uncollateralized, to access financial services while also preventing the risk of default for financial institutions, resulting in mutual benefits for both sectors.

New financing innovations via Fintech can be a solution to help the funding gap between SMEs and financial industries [20]. A recent study by [60] finds that Fintech helps in reducing SMEs' financing barriers by eliminating information asymmetry that leads to business efficiency. Technological sophistication can also be optimized to obtain information more quickly, inexpensively, and precisely, allowing for more accurate credit assessment. Credit analysis based on big data and machine learning provided by Fintech companies has been empirically proven to predict defaults better than traditional financial institutions utilizing financial data and the scorecard model [60]. Further, SMEs also need to have an open attitude toward innovation to accelerate the process of adopting Fintech services [61].

The proliferation and advancement of technology enable Fintech companies to innovate in performing creditworthiness evaluations for SMEs. Customized credit assessment models based on financial activity recorded in the digital footprint can be utilized to replace physical financial evidence, including collateral, in credit feasibility assessments. Optimizing financial access via Fintech not only has a positive impact on SMEs' business growth but also encourages national economic resilience, especially during the COVID-19 pandemic, where mobility and physical business transactions are limited to reduce the spread of the virus. This study provides empirical evidence that the innovation of SMEs in Indonesia has a significant positive impact on Fintech adoption. Therefore, Fintech innovation technology facilitates bridging the financial gap between SMEs and Fintech businesses in Indonesia.

Due to the collateral and capital issue, financial institutions will charge higher interest to mitigate the potential future risk of credit from SMEs. From the perspective of a Fintech company, the challenge arises due to the higher cost of capital to allocate credit for SMEs, causing them to be less competitive compared to existing financial firms that have collaborated with the government in providing interest subsidies for financing SMEs. Therefore, the government needs to provide a collaboration platform for Fintech companies by providing interest subsidies to SMEs and facilitating appropriate policies to create a fair business environment for all financial industry companies. Furthermore, research findings indicate that government support can influence user innovativeness (SME owners) by developing Fintech business infrastructure to provide opportunities for SMEs to experience using Fintech services, which are not yet equitably distributed in many developing countries. This finding also aligns with the individual innovativeness theory state that "openness to experience develops curiosity and willingness to learn and experience new things among individuals that leads to innovation" [62]. As a result, developing countries' demographic and competitive advantage must be prepared by accelerating the expansion of the Fintech business ecosystem and developing Fintech infrastructure to encourage the transformation of SMEs in maximizing access to financial services in a responsible and sustainable way.

6. Conclusions, Implications, Limitations, and Recommendations

6.1. Conclusions

The study aims to explore the determinants of Indonesian SMEs in adopting Fintech services during the COVID-19 pandemic. Based upon an extended TAM model, this paper analyzed the relationship between perceived usefulness, perceived ease of use, financial literacy, user innovativeness, government support, trust, and behavioral intention to adopt Fintech among SMEs in Indonesia. The research data was collected from 415 Indonesian SMEs respondents via an online questionnaire between August 2021 and April 2022 and analyzed using Smart-PLS 3.0 statistical software.

The finding identified that almost all variables, namely, perceived usefulness, perceived ease of use, user innovativeness, government support, and trust, have a direct impact on behavioral intention to adopt Fintech among Indonesian SMEs, except financial literacy. The inverse correlation between financial literacy and Fintech adoption could imply that in Indonesia, SMEs with low financial literacy are able to use technology for financial transactions that were previously unavailable to them. The research findings also show that perceived usefulness was the most significant determining factor, and government support contributed the least to Fintech adoption for Indonesian SMEs.

6.2. Implications

Understanding the determinant factors in adopting digital financial services has important implications for both SMEs and financial industry development. Fintech helps in closing the funding gap in accessing and democratizing financial services for all society, including SMEs, which leads to business growth as well as increased revenue for financial companies. Innovation in the Fintech business in creating useful and attractive interface applications for SMEs is an added value to the acceleration of financial technology adoption in Indonesia, including regularly updating application security to protect consumers' personal data and privacy. Furthermore, this work leads to implications for the Indonesian government through strategic policy approaches to promote financial access. Educating Indonesian SMEs through technical and administrative assistance increases the success of achieving national financial inclusion, which is targeted to reach 90 percent by 2024.

6.3. Limitations and Recommendations

This study explores Fintech adoption drivers of SME users in Indonesia, and further research could be extended to other countries that may produce different results. Despite this study's extended TAM model, the new research is expected to investigate not only focus on drivers' dimensions but also barrier to provide more comprehensive information that assists policymakers in formulating strategies for increasing financial inclusion via Fintech. Another obstacle to this research is access to data. For further research, it is necessary to collaborate with several organizations or institutions affiliated with SMEs to speed up the data collection process. Finally, future studies can also be expanded by considering the geographic location of SMEs business since there is still a huge gap between the urban and rural areas in adopting financial services.

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