

# Development of Financial Technology (Fintech) in Indonesia and Its Affecting Factors

Dewi Sartika<sup>1</sup>, Firwan Tan<sup>2</sup>, Adrimas<sup>3</sup>, Asniati<sup>4</sup>, Ari Warokka<sup>5</sup>

<sup>1</sup>*Doctorate student of Faculty of Economics Andalas University, Padang, Indonesia*

*Email: [sartika\\_1985@yahoo.co.id](mailto:sartika_1985@yahoo.co.id)*

<sup>2,3,4</sup>*Faculty of Economics Andalas University, Padang, Indonesia*

<sup>5</sup>*Master of Management Program, Faculty of Economics, State University of Jakarta*

*Corresponding author: Dewi Sartika*

*Doctorate student of Faculty of Economics Andalas University, Padang, Indonesia*

*Permanent address: Faculty of Economics and Business Bina Darma University, Palembang*

*Email: [sartika\\_1985@yahoo.co.id](mailto:sartika_1985@yahoo.co.id)*

## Abstract:

The purpose of this study was to identify the factors influencing the development of Indonesian financial technology (Fintech) based on the evaluation of the CEO of Fintech Peer to Peer (P2P) Lending. The research methodology was a two-step method, an exploratory factor analysis method for evaluating the formulation of indicators, followed by a confirmatory factor analysis method. In the first step, based on literature research, 50 indicators that are expected to influence the development of FinTech in Indonesia were developed. We conducted a survey of 93 CEOs of Fintech P2P Lending in Indonesia to see if the 50 indicators affect Fintech development. The results show that there are six factors that have a major impact on FinTech development: Human Resources (HR), Digital Finance and Payments, Communications Infrastructure, Technology and Internet Development, and Government Regulations. Although the company's operational factors did not affect the development of FinTech in Indonesia

**Keywords:** Fintech development, CEO of Fintech P2P Lending

## I. Introduction

According to the statistics of Bank Indonesia (2020), the tendency to develop financial technology and fintech in Indonesia is increasing rapidly year by year. The number of e-commerce products reached 412,055,870, and the cumulative loan disbursement amount reached IDR 128,698 trillion over the same period (OJK.2020). This situation makes Indonesia the most developed country in the fintech industry after China. In Indonesia, FinTech offers more online loans to the Ministry of Micro, Small and Medium Enterprises (MSME). In addition, FinTech Payments, Digital Financial Innovation FinTech (IKD) and FinTech Equity Crowdfunding are also

beginning to develop and are in demand from Indonesian people (Davis et al., 2017).

There are two main factors driving the development of FinTech innovation. That is, strength of demand and strength of supply (Bernanke, 2012), (Awrey, 2013), (Jakob de Haan et al., 2016), (FSB, 2017) (FSB, 2018). On the demand side, changing consumer preferences are impacting consumer demand for innovation. The ease of access to the Internet and the ability of Internet network users to execute transactions in real time has created high expectations for convenience, speed, cost savings, and ease of use of financial services. The same is true for demographic factors such as increased acceptance of millennials (digital

natives) who grew up in the age of digital technology. Another factor influencing demand is the development of technology. Innovations in financial services are evolving in new ways that use different business models. On the other hand, the driving force on the supply side was changes in financial regulation and market structure, especially after the global financial crisis of 2008/2009. Regulatory changes should reduce the risk of future crises. One of the new regulatory policies was to create incentives to develop new services and business models to replace FinTech (FSB, 2017).

This study attempts to close the "research gap" from previous studies, and its discussion focuses on the factors driving fintech development. The study is extensively discussed, starting with formulating indicators of findings from several previous studies and then identifying relationships between these indicator variables to construct the composition. increase. Therefore, this research can make a concrete contribution to finding close relationships between the factors that are formed as determinants of fintech development. This study also helps to prove the phenomenon of limited or exclusive population associated with factors influencing the development of FinTech in Indonesia, as seen from the direct perception of FinTech CEOs.

## 2. Literature Review

The emergence of disruptive innovation has disrupted the global financial services industry, including industrial structure, intermediary technology, finance, and its consumer marketing model. (Kotter, 1995). One of the changes due to this disruptive innovation is a new phenomenon called Financial Technology, or more commonly known as Fintech. The presence of FinTech aims to make financial services products accessible to the general public, facilitate transactions and improve financial literacy. Fintech is creating a variety of new financial models that make it more convenient for consumers to access financial products and services. The presence of FinTech has also awakened the status quo and revolutionized the way traditional financial institutions work (Rahardjo, 2017). (Hung & Luo, 2016) defines FinTech as a combination of both areas that will lead to innovative financial

services moving from an internal approach to an external provider to provide online and mobile solutions in a timely manner. According to (Iman, 2018), Indonesian fintech is an implementation of the use of technology to improve banking and financial services. Fintech uses new software, internet, communications, and computer technologies such as predictive analytics, big data, and artificial intelligence. On the other hand, these disruptive changes pose many challenges not only for the banking and financial sectors, but also for other sectors and industries (Kai Riemer et al., 2017).

### 2.1. Telecommunication Infrastructure

The impact of broadband as an infrastructure for economic growth has received special political attention for over 15 years (Picot & Wernick, 2007), (Czernich et al., 2011), (Holt & Jamison, 2009), (Katz et al., 2010) and (Ghosh, 2017). Broadband is a transmission medium that can transmit many signals and divide their capacity into multiple bandwidth channels. According to the Indonesian Broadband Planning Document, broadband guarantees always connected connections, information strength and security, 2 Mbit/s for landlines and 1 Mbit/s for mobile access. It is defined as internet access with triple play function. (BAPPENAS, 2014).

(Audretsch et al., 2015) states that broadband is an important requirement for high-tech startups, consumers and retail-related services that provide access to information and open up opportunities to launch new businesses such as e-commerce. is showing. (Agarwal & Wu, 2015) states that physical infrastructure, including information and communication technology (ICT) infrastructure, can impact the growth of e-commerce and fintech. Affordable countries for ICT are countries with low tariffs. A way to measure the affordability of ICT is to consider the price of ICT services and the level of revenue of the user and reflect the economic opportunities on the demand side (Alderete, 2017) His findings also show that the higher the penetration rate of mobile broadband and the lower the price of ICT services, the more entrepreneurial activity. Several studies in Brazil and Chile have shown that high internet access rates are one of the main reasons for not using the internet. (Jordan et al., 2010) also found that fixed-line broadband services in Latin

America and the Caribbean (LAC) are generally more expensive than OECD (Organization for Economic Co-operation and Development) countries that provide broadband services. Shown that it is low cost. Low cost Low quality is cheap and therefore has a high penetration rate.

## 2.2. Human Resources (HR)

According to (Cooper et al., 1994) and (Lasch et al., 2007), human resources are one of the predictors of new performance growth, but the findings of (Lasch et al., 2007) show that human resources are ICT. There was no impact on the growth of the service company. (Wicker & King, 1989) found a positive correlation between the age of startup entrepreneurs and the success of the company. Other studies have shown that age factors are associated with a high level of qualification and are important factors for the success of the new company (Cooper et al., 1994) (Dahlqvist et al., 2000) Entrepreneurship education and experience are also important factors in the success of a new business, especially if the entrepreneur is in the same industry as before (Cooper et al., 1994) Experienced entrepreneurs can use their knowledge to recognize company failures more quickly than inexperienced entrepreneurs, so there is no doubt that they will close the company (Dahlqvist et al., 2000).

In technology-based companies, people need to constantly improve their skills and constantly evolve. Incubators are seen as a powerful policy tool to support the growth and development of technology-based companies. (Almakenzi et al., 2015) is an interactive incubator pointing to the American National Business Incubation Association (NBIA) aimed at encouraging people to start their businesses and helping startups develop innovative products. Defined as a development process. The role of technology incubators is becoming increasingly important in starting new businesses and entrepreneurs. Through the incubation process, technical aspects, commerce, and the formation of quality start-ups can be carried out in a controlled manner with various aid agencies. This controlled state helps new entrepreneurs survive, grow and develop their businesses (Simamora, 2011).

## 2.3. Theory of Agency (Jensen & Meckling, 1976)

Many theories can be used to explain the existence of FinTech, including agency and transaction costs, network externalities, diverse platforms, and disruptive innovation. Agent costs are a type of internal cost incurred or must be paid to a party acting as an agent (Jensen & Meckling W.H, 1976) Agency costs are incurred because the company is owned and operated by the same person. As the economy grows, private companies grow into large companies, involving different stakeholders with different interests. The term "agency" refers to the interaction between a principal (supervisor) and an agent (subordinate). Agency fees are required for the business unit to function properly. The presence of innovation generally significantly reduces agency costs and increases agent accountability and client transparency. Transaction costs (also sometimes referred to as adjustment costs) are the costs incurred when a company engages in economic exchanges or participates in the market (Coase, 1937) and (Williamson, 1981). Network externalities are the impact on users of other products or services that use the same or compatible products or services (Katz et al., 2010) and (Liebowitz & Margolis, 1994). If more users of a product or service improve their usability, network externalities can be positive. On the other hand, as the number of users of products and services increases, it can become negative if it becomes inconvenient. In the FinTech context, positive network externalities can arise from the presence of FinTech and its user base. Positive impacts come not only from current trends (fashion and style), but also from complementary products and services. For example, in millennials and big cities, FinTech is considered a bit "cool".

Fintech applications can also be considered as "complements" to other existing applications, such as: B. Mobile banking applications and on-demand online transportation. Fintech is also closely related to the concept of network externalities. A multilateral platform is one of the concepts that can be used to explain the emergence and spread of technology and is a business model that brings together two or more independent user groups (Rochet & Tirole, 2003). This interaction is facilitated by the existence of a platform that manages

connections (Hauptman, 2003). Most existing technologies use platform technologies that integrate both the user base and the customer, so a multi-sided platform is appropriate.

### 3. Research Model

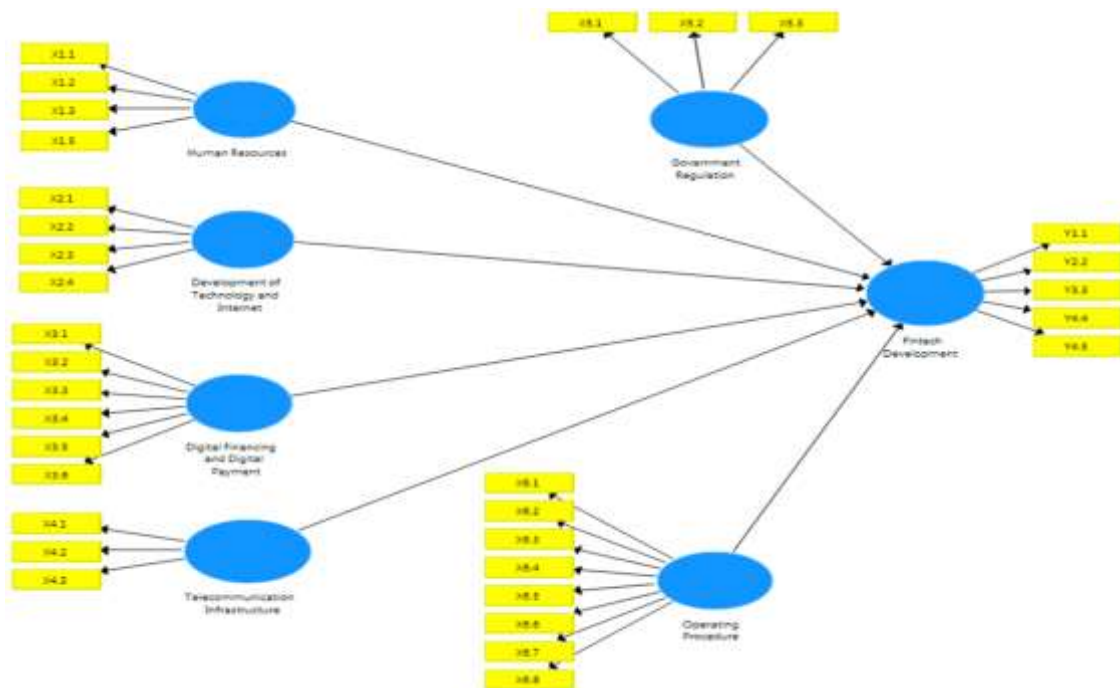


Fig 1. Research Model

Based on the results of the factor analysis, there are 6 factors that influence the development of Fintech in Indonesia, namely: digital financing and payments, government regulations, human resources, company operations, technology and internet developments, and telecommunications infrastructure factors. The formulation of the research hypotheses are:

1. Based on innovation, the most important success factors of a new company are human resources including the characteristics of the founder such as personality, experience and education (Perdani et al., 2018). The employer's work experience is a factor that can influence the development of a startup (Cooper et al., 1994). Talent can also be used as a predictor of the new company's performance growth (Lasch et al., 2007). Based on these phenomena and theories, the first hypothesis (H1) of this study is that human resources factors have a positive impact on the development of FinTech in Indonesia.
2. According to (Bower & Christensen, 1995), financial innovation aims to introduce practicality, accessibility, convenience, and

economic cost. A study (Phan, 2010) also found that technology capital has a positive impact on the strength of entrepreneurship. This model was accepted in the United States, but was rejected in South Korea because the United States is more technologically responsive than South Korea. Researchers believe that the most important thing is to turn the fintech business into technology. Therefore, technological development in a country is a deciding factor in whether FinTech can develop in that country. In addition, the Internet is a medium between fintech companies and customers. The more Internet users there are in a country, the higher the marketing opportunities for FinTech. Based on these phenomena and theories, the second hypothesis (H2) of this study is that the development of technology and the Internet will have a positive impact on the development of FinTech in Indonesia.

3. Although there are many mobile users in developing countries, mobile payment services vary by region and country due to the difficulty of accessing financial institutions (Ernst & Young, 2015). The results of the study (Haddad & Hornuf, 2019) show that funding

barriers affect FinTech development. In addition, companies were told to look to alternatives to develop their business, such as through FinTech, if banks' funding was hampered. Based on these phenomena and theories, the third hypothesis (H3) of this study is that digital funding and payment factors have a positive impact on the development of FinTech in Indonesia.

4. While the EU's "European Digital Agenda" sees broadband as the most important requirement for telecommunications startups, ICT is an incubator for the growth of other industrial sectors. (Audretsch et al., 2015) also important for consumer and retail-related services where broadband provides not only high-tech startups, but also the opportunity to access specific information and customers and start new businesses such as e-. He pointed out that it is becoming a requirement. Commerce and open fintech. Based on these phenomena and theories, the fourth hypothesis of this study is that telecommunications infrastructure factors have a positive impact on the development of FinTech in Indonesia.

5. The proportion of regulations that are properly and quickly regulated makes the fintech industry more attractive. In addition, self-investors dare to make investment decisions based on their own decisions, further guided by the public's interest in being the driving force behind fintech development (Chishti & Barberis, 2016) Based on this phenomenon, the fifth hypothesis (H5) in this study is that government regulation has a positive impact on the development of FinTech in Indonesia.

6. From a perspective (Saraswathi Ramachandra, 2017), there are several factors that can cause FinTech to continue to grow. The factor is a high-performance culture to meet the digitalization and rapidly changing customer requirements, and the customer experience is the key to the next idea. Therefore, employees need to build with a high performance mindset. Based on these phenomena and theories, the sixth hypothesis (H6) of this study is that the operational factors of the company have a positive impact on the development of FinTech in Indonesia. The above hypothesis is shown in Figure 1 below.

#### 4. Research Method

This study used primary and secondary data. The primary data was obtained from the answers to the questionnaire, and the secondary data was obtained from a literature survey as a reference. The survey respondent population is all Fintech P2P Lending CEOs, registered and licensed by a total of 106 Financial Services Authority (OJK) companies. For the sampling method, we adopted a target sampling method that determines the sampling method from a special point of view. First, the registered fintech P2P lenders are monitored by OJK, so the data received from providers or service providers who know the development of fintech is really valid. Second, if the number of samples is 30 or more, the number of respondents' samples meets the Central Limit Theorem (CLT). In this survey, the number of samples or respondents who fill out and return the questionnaire is 93 respondents, which is sufficient for testing with partial least squares (PLS). The results obtained from the respondents' responses were descriptively evaluated using the Smart PLS 3.0 software.

#### 5. Results and Discussion

##### 5.1. Company Information

The companies selected as respondents in this survey are 106 FinTech P2P lending platform companies in Indonesia, registered and licensed by the Financial Services Authority (OJK). All selected respondents are the founders / CEOs of Fintech P2P Lending. A licensed or registered operator may operate an information technology loan and loan service business in accordance with the rules. However, an operator with license status is different from an operator who is still registered. A licensed operator is a company that has been permanently approved and has a certificate of SNI / ISO 270001 compliant information security management system. The registered operator is currently a permanent licensed company and must apply for a license from the Financial Services Authority (OJK). Currently, all organizers of registration status have submitted applications and are in the process of obtaining permanent approval.

##### 5.2. Measurement Model (Outer Model)

In the current study, we used convergence and discriminative validity tests to validate the measurement model. According to (Ghozali, 2015), if the external load value is  $> 0.70$ , the indicator meets the validity of convergence. Therefore, if the load factor value for any of the

indicators in this study exceeds 0.7, it is said to be valid. Figure 2 shows the test results using the software smartPLS 3.2.3 from the validity values.

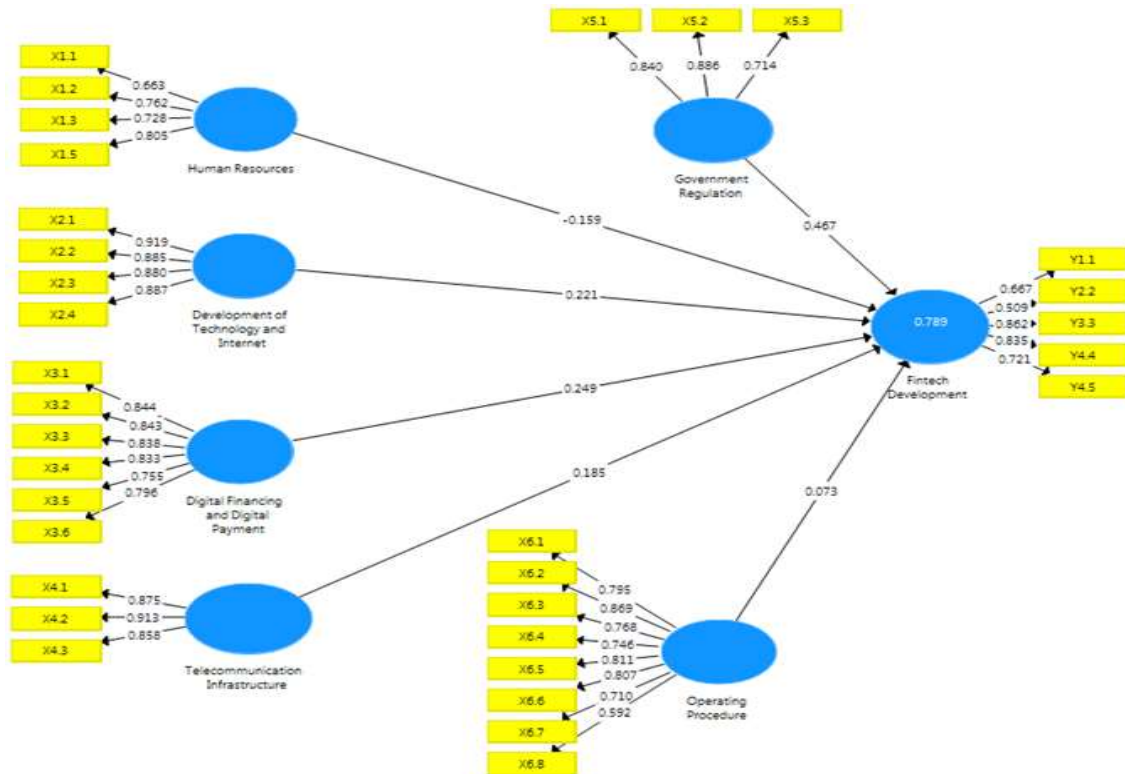


Fig 2. Measurement Model (Outer Model)

If manifest variables of different configurations do not correlate more than the configuration itself, the model meets the validity of the discrimination. In addition, the validity of the discrimination is good when the mean variance extraction (AVE) value for each configuration

is  $> 0.5$  (Ghozali, 2015). Table 1 shows the AVE values for each latent variable and the configuration identification validity values for the model based on the Fornell Lacker criteria.

Table I: Discriminant validity

	Developm ent of Technolog y and Internet	Digital Financi ng and Digital Payme nt	Fintech Developm ent	Governm ent Regulatio n	Human Resourc es	Operati ng Proced ure	Telecomm uni cation Infrastruct ure
-Development of Technology and Internet	0,893						
-Digital Financing and	0,697	0,819					

Digital Payment							
-Fintech Development	0,726	0,700	0,730				
-Government Regulation	0,507	0,438	0,742	0,817			
-Human Resources	0,365	0,409	0,308	0,350	0,741		
-Operating Procedure	0,577	0,429	0,592	0,578	0,432	0,766	
-Telecommunication Infrastructure	0,595	0,680	0,612	0,361	0,480	0,448	0,882

As shown in Table 1, the validity value for each configuration is greater than the correlation value between one configuration and another. The AVEs for all variables are also greater than 0.5 for the model to meet the criteria for discriminant validity. In addition to validation, configuration reliability checks are also performed. There are two ways to measure reliability: Cronbach's alpha factor and compound reliability. If the Cronbach's alpha

factor and compound reliability values are greater than 0.7, the configuration is declared reliable (Ghozali, 2015). In addition, the combined reliability of each latent variable and the Cronbach's alpha output result is greater than 0.7, so we can conclude that the reliability of all latent variables is good. Based on the results of the above validity and reliability tests, the measurement model used is valid and reliable.

Tabel 2: Construct reliability and validity

	Cronbach's Alpha	rhoA	Composite Reliability	Average Variance Extracted (AVE)
Development of Technology and Internet	0,915	0,916	0,940	0,797
Digital Financing and Digital Payment	0,902	0,907	0,924	0,670
Fintech Development	0,772	0,807	0,847	0,533
Government Regulation	0,745	0,758	0,856	0,667
Human Resources	0,741	0,795	0,829	0,549
Operating Procedure	0,900	0,926	0,918	0,587
Telecommunication Infrastructure	0,858	0,859	0,913	0,779

### 5.3. Structural Model Testing (Inner Model)

Structural models describe the relationships between latent variables in a model. When testing the structural model, the parameters R-square and t-value are used. The test begins by examining the R-square value of each endogenous latent variable as the predictive

power of the structural model. A R-square value of 0.67 indicates a heavy weight, a value of 0.33 indicates a medium weight, and a value of 0.19 indicates a weak weight (Ghozali, 2015). Table 3 shows the R-square values for the endogenous variables.

Table 3: R Square

	R Square	R Square Adjusted
<b>Fintech Development</b>	0,789	0,775

As shown in Table 3, fintech development variables have a heavy weight with an R-square value of 0.789. Since intrinsic variables are explained by extrinsic variables, the variability of FinTech development variables is explained by several variables. 1. Personnel variables (HR) consist of professional experience, informal skills, population, educational background, and research and development. 2. Variables of technology and Internet development consisting of digitization, advances in information technology, and innovation. 3. Digital finance and payment variables. It consists of inspiration from previously evolved startups, internet-savvy millennial generations, internet proliferation, big data, levels of financial literacy, and industrial infrastructure. 4. Telecommunications infrastructure variables consisting of broadband speed, broadband price, and broadband availability. 5. A state regulatory variable consisting of pension freedom, political support, and a regulatory framework. 6. Company operational variables consist of high performance culture, company productivity, data-driven decisions, brands, customers as the basis of business planning, company strategy, company reputation, and interest rates. The R-square value obtained in this study was 78.9%,

while another 21.1% was explained by other variables outside the study model.

### 5.4. Test of Hypothesis

The hypothesis test was performed by comparing the original hypothesis of the model used with the data in the questionnaire. The significance level used was 0.05. This means that the findings can be taken into account with an error rate of 5% or less. The value in the t table with  $n = 93$  and a significance level of 0.05 is 1.987. If  $t\text{-value} > t\text{-table}$ , the relationship between the hypothesis test and the variables is important. Table 4 shows that human resources p-values in variable communications infrastructure, digital finance and payments, government regulation, technology and internet development, and fintech development are less than 0.05. This means that all these factors have a significant impact (acceptable). The company's fintech development activities have a p-value of over 0.05, but have been declared insignificant (rejected).

Table 4: Result of Path Coefficients

Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
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Development of Technology and Internet - > Fintech Development	0,221	0,211	0,091	2,431	0,015
Digital Financing and Digital Payment -> Fintech Development	0,249	0,242	0,096	2,595	0,010
Government Regulation - > Fintech Development	0,467	0,468	0,070	6,708	0,000
Human Resources -> Fintech Development	-0,159	-0,140	0,061	2,586	0,010
Operating Procedure -> Fintech Development	0,073	0,093	0,099	0,736	0,462
Telecommunication Infrastructure -> Fintech Development	0,185	0,173	0,077	2,412	0,016

Hypothesis H1 showed that telecommunications infrastructure factors have a positive impact on the development of FinTech in Indonesia. The submission of this hypothesis was based on the results of a statistical test with a p-value of 0.015, which has a margin of error probability of less than 0.05. A descriptive analysis of the telecommunications infrastructure as a factor in FinTech development is performed through the implementation of telecommunications infrastructure indicators. According to (Picot & Wernick, 2007), (Czernich et al., 2011), (Holt & Jamison, 2009), (Katz et al., 2010), and (Ghosh, 2017), broadband is a multi-shared transmission medium. Notify the capacity to multiple bandwidth channels. The results show that broadband is an important prerequisite for high-tech startups, a consumption and trade-related service that provides access to specific information and customers and opens up opportunities for launch new companies such as e-commerce and fintech (Audretsch et al., 2015).

The large-scale development of information and communication technology infrastructure over the last decade has helped FinTech's rapid development in Indonesia. This is in line with the survey results, with 51.25% of respondents saying there is a very high correlation between telecommunications infrastructure factors and FinTech development. Broadband availability is expected to drive the effectiveness and productivity of technology-based enterprise founders in the development of a variety of

applications, as in FinTech. The results show that 40.5% of players in the fintech industry believe that internet connection performance and longevity are the most important requirements for all business people. This shows that in addition to the high-speed Internet networks that are influencing FinTech development, there is also sufficient communication infrastructure such as availability, speed, and price of broadband itself. The findings of (Rohman & Bohlin, 2012) show that doubling the broadband speed results in a GDP growth rate of 0.3% and a broadband fee for the development of fintech startups. According to a study by (Alderete, 2017), lower prices for information and communication technology (ICT) services could increase entrepreneurial activity. The results of this study suggest that high-speed Internet access rates are influencing the development of fintech startups. Similarly, the results (Atapattu, 2010) showed that high-speed broadband Internet access is a catalyst for social and economic development.

The results of testing the H2 hypothesis in this study show that digital funding and payment factors have a positive and significant impact on the development of FinTech in Indonesia. The submission of this hypothesis is based on the results of a statistical test with a p-value of 0.007 with a margin of error probability of less than 0.05. From this, we can conclude that the factors of digital finance and payment have a positive and significant impact on the development of FinTech in Indonesia. These findings are

supported by the findings of Reynold Wijaya (2017) on his website <http://blog.modalku.co.id/2017/06/22/>, and FinTech development in Indonesia as well. There are several things that are promoting. Born in the Internet age, the younger generation is looking for a quick solution to their problems. At FinTech, the process is done online and it's easy to mitigate the problem. The proliferation of the Internet and smartphones has made online financial transactions more practical and easier, providing a great opportunity for millennials to build digital fintech startups. Because FinTech is more flexible than more robust traditional enterprises, the digital finance and payment elements make it easier to target the unaffected civilian and MSME actors of the banking sector. Another option is to leverage software technology, big data and social media data to make FinTech more convenient. With the presence of Fintech Payment, a useful fintech service, payment services have changed from traditional bank-based services to convenient and highly efficient digital service systems (Moon & Kim, 2017).

According to Dailysocial.id (2017), 69% of the target customers in the fintech industry are those who have digital knowledge and are ready to use all the digital tools in the fintech industry. Although there are many mobile phone users in developing countries, access to financial institutions is difficult, so payment services via mobile phone networks vary from region to region (Ernst & Young, 2015). The results of the study (Haddad & Hornuf, 2019) show that funding barriers affect FinTech development. He added that if banks' funding is hampered, companies will consider alternatives to developing their businesses, such as through FinTech. This is partly due to the high funding demand of the non-banking community, including micro, small and medium-sized enterprises (Rizal et al., 2018), as the background to the high growth of P2P lending startups in Indonesia. I am doing it. SMEs have a deadline (MSME). Indonesia's fintech industry is currently growing and developing, which is reflected in the growing number of licensed fintech companies and the various financial services solutions offered. Another interesting finding is that about 89% of fintech companies believe that consumers are very embraced by the services they offer. Approximately 61% of fintech companies are very optimistic that their

business will grow and grow in the future (Soon & Thung, 2018).

Hypothesis H3 shows that state regulatory factors, consisting of regulatory frameworks, political support, and corresponding percentages of regulation, have a positive impact on the development of FinTech in Indonesia. The submission of this hypothesis was based on the results of a statistical test with a p-value of 0.000 and an error probability value of less than 0.05, allowing it to accept the government's regulatory variable hypothesis and have a positive and significant impact on development. increase. of. I have FinTech in Indonesia. As a regulatory agency, the Financial Services Authority (OJK) has implemented light regulation and safe harbor policies to support the development of FinTech in Indonesia. Since 2016, Bank Indonesia (BI) and OJK have issued a number of regulations regarding fintech. In addition, the Ministry of Interior and the Ministry of Communications and Information issued two relevant rules in 2019. During the pandemic, OJK placed a moratorium on the online lending process and crowdfunding services. This result strengthens government support for the emergence of FinTech in Indonesia. So far, there is no other study to find out if government regulations affect the development of FinTech in Indonesia. This finding is one of researchers' contributions to the assumption that government regulations have statistically proven to play an important role in the development of Fintech in Indonesia with respect to the perceptions of service providers, especially the CEO of Fintech P2P Lending. It is a department. These findings are also supported by the results of the Annual Membership Survey (2019/2020) an (Indonesian Fintech Association, 2019). Research has shown that the current government regulatory framework encourages innovation. More than half of the people surveyed believe that the government is providing adequate investment support to the fintech industry. However, regulatory improvements are needed to ensure optimal growth for the fintech industry in the future. Key improvements needed include regulatory clarification, speeding up the approval process, reducing complex bureaucracy (bureaucratism), and eKYC regulation. In 2019, the government, along with BI, OJK and the Ministry of Interior, enacted a number of regulations related to the fintech industry.

Hypothesis H4 states that technology and Internet development factors have a positive impact on Indonesian FinTech development. Since the submission of this hypothesis is based on the results of a statistical test with a P-value of 0.017 and an error probability of less than 0.05, we conclude that this factor has a positive and significant impact on the development of FinTech in Indonesia. can do. And the hypothesis is accepted. Mobile phone and internet usage is skyrocketing in Indonesia, with more than 400 million mobile phone users, 45% of whom are smartphones. In 2019, there were 175.4 million Internet users and 160 million active social media users, 80% of whom accessed the Internet via mobile phones. The increase in the number of smartphone users has greatly contributed to the acceptance of FinTech. Given the widespread social limitations of COVID19, Internet use is said to have increased exponentially by 40%. As a result, FinTech has been introduced so far (Indonesian Fintech Association, 2019). The epidemic of the coronavirus will ultimately lead to changes in consumer behavior, a direct market shift to the online market (Donthu & Gustafsson, 2020). This study is consistent with the findings of (Hung & Luo, 2016), which found that FinTech's current global phenomenon is also closely linked to technology-based innovation in the banking and financial services sector. These innovations have resulted in structural changes that have resulted in lower costs, higher efficiencies and more effective adjustments. Therefore, it is not surprising that FinTech has been applied to many sectors and industries (Zavolokina et al., 2016) and (Stewart et al., 2018). (Harrison et al., 2014) found that innovation in digital business promotes economic development at both the micro and macro levels. Technology is the key to FinTech changing the world through an agile platform with new technology. Companies must strive to learn new technologies and invest in today's promising technologies. Similarly, banks need to be ready to take technology risks and rely on the development of new technologies to set up new parallel solutions or services (Saksonova & Kuzmina Merlino, 2017). The development of Fintech 3.5 in developing countries has led to a large population of young people using mobile devices, a fast-growing middle class, the availability of alternative financial and capital markets, and damage to physical banking infrastructure. It features a change in behavior

from trust to convenience. , And new market opportunities (Arner et al., 2015).

The results of testing the H5 hypothesis in this study show that human resources (HR) factors have a positive and significant impact on the development of FinTech in Indonesia. The submission of this hypothesis is based on the results of a statistical test with a P-value of 0.012 and an error probability of less than 0.05. Previous studies have shown that age has an impact on startup growth (Wicker & King, 1989) However, in this study, age factors did not significantly affect FinTech development and should be excluded from factor analysis. The results of this study are consistent with the findings of Pleschak and Bruderl et al. (Lasch et al., 2007) show that the age factor is negative or has no significant difference. Young entrepreneurs are perceived to be more ambitious, passionate and ambitious, while older entrepreneurs may build stronger networks, be more experienced and have easier access to capital. there is. This study is consistent with the study that relevant work experience contributes to business success (Perdani et al., 2018) However, this result is different from the statement (Simamora, 2011) that entrepreneurs' professional experience and educational background are in line with technology-based enterprises and that enterprises can develop well. This shows that there is no significant impact between the founder's educational background and the development of FinTech. Most people think that in order to start a technology-based business, they also have to take a technology-based major. The results of this study also support a statement (Cooper et al., 1994) that relevant work experience contributes to business success, especially if entrepreneurs are active in the same industry. Experienced entrepreneurs can use their knowledge to recognize company failures more quickly, so they can more easily close a company than inexperienced entrepreneurs (Dahlqvist et al., 2000). About 50% of respondents said the company they started today wasn't the first technology-based company they started. The experience of starting or working in another business before another business can certainly add value in terms of both building skills as capital to run the business and running the business. There is sex. Similarly, there are also informal founder skills acquired through participation in business incubator activities for

the development of startups. However, these informal skills are based on the results of researchers that if the CEO of a fintech company does not participate in education in a business incubator, personnel with indicators of informal skills will not affect the development of fintech. Does not match. Researchers' results are consistent with research results (Lasch et al., 2007) that state that startup education is not directly proportional to startup development. Similarly, in R & D, this is the ability of companies to plan and develop businesses, including the ability to identify and analyze market opportunities (Zhang, 2012).

The results of testing the H6 hypothesis in this study show that there is no significant impact between the company's operational system variables on FinTech development. The presentation of this hypothesis is based on the results of a statistical test with a p-value of 0.015 and a probability of error greater than 0.05. Therefore, the "operating company" hypothesis is rejected and does not affect the development of FinTech in Indonesia. The success of the "advanced work culture" in developing new technologies depends on employees with the right digital talent. Key employees need to be hired and protected from the business team as usual, but employees need to build with a high performance mindset. This means that existing personnel guidelines, benefits, and operating models need to be modified. For some companies, it makes sense to create their own business units that facilitate fintech initiatives. This unit operates outside the traditional bank and is free of the traditional organizational hierarchy and constraints to improve collaboration, productivity and thinking. After all, 35.4% of CEOs said there was a very high correlation between variable formation indicators and Fintech development, but it was not significant.

The "corporate productivity" aspect means that FinTech lenders must be able to make the most of their funding. After all, 41.9% of CEO perceptions show that there is a very high correlation between fluctuation formation indicators and FinTech development. The "data-driven decision" aspect means that all decisions made by fintech companies must be based on data from past events. In addition, the "brand" aspect is the strength and uniqueness of the company's branding that influences FinTech

development. Making a customer the foundation of a company's activities means that fintech companies believe that their needs are paramount. The "corporate strategy" aspect is the ability of management to be very important in formulating a corporate strategy. The "company reputation" aspect is that the company's reputation and image are the most important part of the company. The final dimension is "price / interest" and the company needs to set a competitive price / interest rate to be able to compete with other fintech companies (GreckHendrick, 2017) in <https://Fintech.prophet.com/2017/05/3-key-factors-for-Fintech-success/>. However, the post-statistical statement did not show a significant effect. For Fintech users, the focus is not on running the company, but on the convenience of using Fintech.

## 6. Conclusion and Suggestions

From the results of this study, it can be concluded that:

1. Telecommunications infrastructure factors have a positive impact on the development of FinTech in Indonesia. In addition to high-speed Internet, you also need to support the availability of the appropriate communication infrastructure such as the availability, speed, and price of broadband itself.
2. Digital finance and payment factors have a positive and significant impact on the development of FinTech in Indonesia. This factor is easy to manage because the segment they are working on does not affect the general public as well as the general MSME actors who are unaffected by the banking sector.
3. Government regulatory factors have a positive impact on the development of FinTech in Indonesia. These results confirm that government support is very important for the emergence of FinTech in Indonesia.
4. The development of technology and the Internet has a positive effect on the development of FinTech in Indonesia. FinTech entrepreneurs believe that the large number of people who have access to the Internet in high mobility has great market potential for users of FinTech services.
5. Community Resources (HR) factors have a positive and significant impact on the development of Fintech in Indonesia. Relevant

talent contributes to the success of the business, especially if entrepreneurs are active in similar industries.

6. The company's operational factors do not have a positive or significant impact on the development of FinTech in Indonesia. Fintech HR works more mechanically than manually because the company's operations have changed from traditional systems to digital systems.

7. Suggestions, Further research is needed to explore more variables that influence the development of Fintech in Indonesia by involving more respondents from the Indonesian Fintech Association.

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