

# Digital Economic Model to Encourage National Economic Recovery During Covid-19 Pandemic

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## ABSTRACT

The impact of the Covid-19 pandemic has occurred in almost all industries, including the banking industry. The uncertain economic conditions since the pandemic have disrupted the economy of a country. In Indonesia, in particular, the government is making efforts to encourage the recovery of the national economy. This National Economic Recovery Program from the Indonesian government aims to protect, maintain and improve the ability of business actors to run their business during the Covid-19 pandemic. The digital economy has become paramount as industries and institutions including, commercial banks, strive to adopt better and more effective methods of providing services to their clients and customers daily. The problem of the slow process of accelerating the development of the digital banking and the issue of collaboration with the FinTech industry in the banking sector are considerations to encourage national economic recovery during the Covid-19 pandemic. The purpose of this digital economic model is to empirically test whether the FinTech industry has a role in mediating and moderating the influence of banking digitalization on national economic recovery through the development of cooperation, especially during the Covid-19 pandemic. This empirical study uses a quantitative method approach. The survey uses an online questionnaire and data collection by purposive random sampling technique. From 200 employee respondents from various banks in Indonesia, finally, 175 samples were taken as valid data and processed using smartPLS software. The results of this study reveal that during the current covid-19 pandemic, the phenomenon of digital economic development can encourage national economic recovery through the development of cooperation in the banking sector with the FinTech industry. They must work together in realizing a digital economy through optimal financial digitalization. The results also reveal that the "FinTech Industry" is not a disruption. But, it has the potential to collaborate with banking sectors through the development of cooperation. The development of this digital economic model expects to make a real contribution in encouraging national economic recovery. The role of the FinTech industry in mediating and moderating the influence of banking digitalization on national economic recovery during the COVID-19 pandemic in this empirical study is a novelty in research related to this digital economy.

**Keywords:** Banking Digitalization, Digital Economy Model, Fintech Industry, National Economy Recovery.

## 1. INTRODUCTION

The Covid-19 pandemic is a pandemic that has a global impact with a high rate of spread and affects various aspects of people's lives, including the business, banking, and financial sectors, and many other important industries that have stopped [1]. The uncertain economic conditions since the pandemic have disrupted the economy of a country [2],[3]. In Indonesia, in particular, the government is making efforts to encourage the recovery of the national economy. The occurrence of the Covid-19 pandemic that hit Indonesia can be seen from another side, namely to accelerate the process of the digital economy playing a central role during the COVID-19 pandemic, especially in economic activities. Banking digitalization and the rapid development of the FinTech Industry have contributed to the national economic recovery.

National Economic Recovery Program (PEN, abbreviated in Indonesian) aims to protect, maintain and improve the ability of business actors in running their business during the Covid-19 pandemic [4]. According to information quoted from the site *antaranews.com* [5], it was stated that the realization of the National Economic Recovery (PEN) program budget reached 305.5 trillion IDR (41%) until the end of July 2021. With the strengthening of the PEN budget in 2021 from a value of 699.43 trillion IDR to 744.75 trillion IDR, it is hoped that a gradual national economic recovery will occur.

The digital economy plays a role in increasing productivity and support economic development of a country [6]. The digital economy plays a central role during the COVID-19 Pandemic, especially in economic activities [7]. The digital economy provides hope in difficulties in today's conditions and has strong resilience in times of recession. The transformation of the digital economy is an important thing to be done immediately. Indonesia is one of the countries that have great potential for the development of the digital economy. A survey from McKinsey [8] in 2016, states that if Indonesia can take advantage of digitalization, it is predicted to realize around USD 150 billion by 2025, with GDP growth of 10 percent per year.

The development of Digital Banking was supported by the Financial Services Authority (OJK), with many rules made and obeyed. The survey [9], stated that in December 2020, the volume of digital banking transactions reached 513.7 million transactions, or grew 41.53 percent (YoY) with digital transaction values 2,775.5 trillion IDR, or will grow 13.91% (YoY). The FinTech industry in Indonesia shows strong growth potential [10]. Indonesian Financial Services Authority [11], stated that payment products as FinTech products have 42.22% of the total FinTech products in Indonesia. Nurzianti [9] revealed that the Indonesian Financial Technology Association (AFI) stated that 63.9

percent of the FinTech industry players had collaborated with the banking sector and were connected through the Application Programming Interface (API). Based on the results of a survey conducted by IDC's Digital Transformation in Banking Study in 2016 [12], as many as 23.4 percent consider Fintech as a possible threat and become a competitor of the Bank. Meanwhile, 34.2 percent of other respondent banks see Fintech as a party that has the potential to collaborate or work together.

The problem of the slow process of accelerating the development of the digital economy and the issue of collaboration with the FinTech industry in the banking sector are considerations to encourage national economic recovery during the Covid-19 pandemic.

Several previous studies related to the digital economy including digital banking and related to digitalization by the FinTech industry have been carried out by several researchers.

Research from Semyachkov [6] stated the importance of the digital economy's role in developing countries. Furthermore, a study from Litvishko et al. [13] concluded that the digital economy has a significant impact on the banking sector. Research related to the banking sector and the fintech industry from Subanidja et al. [14] stated that the FinTech industry has the potential to collaborate with the banking sector in Indonesia. In this research, the digital economy is focused on digital banking and the FinTech industry in the financial ecosystem to encourage national economic recovery.

The purpose of this digital economic model is to empirically test whether the FinTech industry has a role in mediating and moderating the influence of banking digitalization on national economic recovery through the development of cooperation, especially during the Covid-19 pandemic.

The development of this digital economic model expects to make a real contribution in encouraging national economic recovery. The role of the FinTech industry in mediating and moderating the influence of banking digitalization on national economic recovery during the COVID-19 pandemic in this empirical study is a novelty in research related to this digital economy.

## 2. MATERIALS AND METHODS

### 2.1. National Economic Recovery

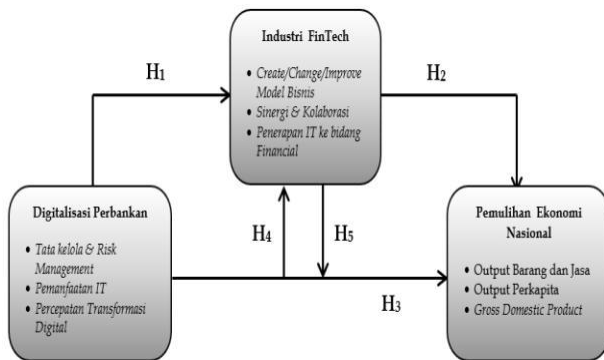
Abidin [4], in his study, stated that the National Economic Recovery Program (PEN) aims to protect, maintain and improve the ability of business actors to run their businesses during the Covid-19 pandemic. The recovery of the National Economy was indicated by an increase in the productivity of the output of goods or services, per capita output income, an increase in gross domestic product or Gross National Product.

**2.2. Digital Economy**

Digital Banking and the emergence of the FinTech industry are the embodiment of the digital economy. Banking digitalization is banking activities using electronic or digital facilities owned by the Banks or through digital media belonging to prospective customers carried out independently[15]. A study from Mawarni & Iqbal Fasa[16] stated that the economic slowdown due to Covid-19 reduced payment activities in the financial and banking sectors but encouraged the acceleration of banking digitalization in the form of the adoption of digital financial technology. The occurrence of the COVID-19 pandemic for the banking industry has become a catalyst to accelerate the maturity of the implementation of bank digitalization. A study conducted by Nurzianti[9] stated that the Indonesian Financial Technology Association (AFI) that 63.9 percent of FinTech industry players had collaborated with banks and connected through the Application Programming Interface (API).

**2.4. The Purposed of Digital Economic Model**

This digital economy study is focused on the digital interconnection of banking and the FinTech industry which has an impact on the national economic recovery. The Conceptual Framework is based on concepts from reference sources that are developed into the main variables in a research model[17], as shown in Figure 1.



**Figure 1** Research Model

The research model in this study has three variables. Digital Banking as an independent variable, having governance and risk management indicators, the use of IT in banking, and the acceleration of digital transformation. Fintech Industry variables that act as intervening & moderating variables, with indicators of business model creation/change/improvement, synergy and collaboration, as well as IT implementation in finance. Finally, the variable National Economic Recovery as the dependent variable has indicators of the output of goods and services, output per capita, and Gross Domestic Product or Gross Domestic Product which is one indicator of a country's economic progress that is very concerned.

Hypotheses in research based on this conceptual framework can develop, as follows:

Suheriadi[18], in his article on InfoBanknews, stated that several banking players adopted the Open API statistical analysis program so that Bank Indonesia considers that bank collaboration with the Fintech industry is increasingly open. Furthermore, Bank Indonesia has also stated that Interlink Fintech and banks must work together to obtain optimal results of financial digitalization[19]. Based on this, a hypothesis was developed:

*H1: Digital Banking affects the FinTech Industry*

The results of the study by Hanifa & Fisabilillah[20] revealed that the Fintech industry, which provided good opportunities during the COVID-19 pandemic, could affect Indonesia's economic recovery. The development of digitalization of banking services will affect the FinTech Industry market[21]. Based on this hypothesis can be developed :

*H2: FinTech Industry affects National Econom Recovery*

Gian Ayu[22] mentions that digitalization is the key to supporting economic recovery to achieve a better level of economic growth. Economic recovery so that there is an increase in economic growth cannot be separated from banking digitalization and changes in customer behavior who use digital services to conduct financial transactions[23]. Based on the facts that have been mentioned the hypothesis was developed, as follows:

*H3: Digital Banking affects National Economic Recovery*

Bank Indonesia has stated that Interlink Fintech and banks must work together to be able to obtain optimal financial digitization results[19]. Bank Indonesia also stated that digitalization is the key to supporting economic recovery[22]. Then developed the hypothesis:

*H4: FinTech Industry mediates the effect of Banking Digitization on National Economic Recovery*

Based on a study Subanidja et al.[14] revealed that "FinTech" is not a disruption but has the potential to collaborate with the banking sector. The FinTech industry is expected to drive the acceleration of digital transformation in the Indonesian Banking industry[24]. Based on the facts that have been mentioned the hypothesis was developed, as follows:

*H5: The FinTech Industry Moderates the Effect of Banking Digitization on the National Economic Recovery*

The findings of the H4 and H5 hypothesis testing results are a novelty in this study.

**2.5. Research Method**

This study uses a quantitative method approach. Data collection method through online questionnaire survey. Data Sampling with Purposive Random

Sampling technique. From 200 employee respondents from various banks in Indonesia, finally, 175 samples were taken as valid data.

To measure the variables in the study used a Likert Scale (scale 5). For this study, measurements to evaluate the validity and reliability of the variables and indicators. The criteria for the magnitude of Cronbach's Alpha (CA) and Composite Reliability (CR) must be greater than 0.7. In testing the hypothesis using the P-Value criteria whose value is < 5%, and the T-Statistic value whose value must be > 1.960 [25].

### 3. RESULTS AND DISCUSSION

#### 3.1. Results

The results of testing the inner model by looking at the value of the Outer Loading.

**Table 1.** Outer Loading of Research Model

Dimesions/Indicators	Banking Digitization	FinTech Industry	National Economic Recovery	Moderating Effect-1
X1 (Government and Risk)	0.932			
X2 (Accelerated Digital Transformation)	0.963			
X3 (IT Utilization)	0.831			
Y1 (Create/Change/Improve business model)		0.785		
Y2 (Disruption/Collaboration)		0.953		
Y3 (Application of IT to Finane)		0.937		
Z1 (Output product/services)			0.800	
Z2 (Outur per capita)			0.862	
Z3 (Gross Domestic Product)			0.895	
FinTech Industry				1.566

Source: Researchers processed data (2021)

Table 1. shows the results of testing the inner model by looking at the value of the Outer Loading. The indicator that is very influential on the variable of Digital Banking is the indicator for the Acceleration of Digital Transformation (X2), with a value of 0.963. In FinTech

Industry variable is very influential the Disruption/Collaboration indicator (Y2), with a value of 0.953. Finally, the most influential variable of National Economic Recovery is the Gross Domestic Product indicator, the value of outer loading being 0.895.

Table 2, Shows the results of the outer model test to determine the value of Cronbach's Alpha and Composite Reliability. The result is that the three variables in the research model are very valid and reliable.

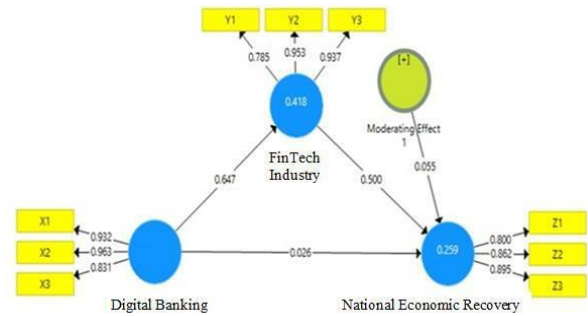
**Table 2.** Outer Model Test Results

Variable	Cronbach Alpha	Rho A	Composite Reliability	AVE
Banking Digitization	0.895	0.906	0.935	0.829
FinTech Industry	0.872	0.891	0.923	0.801
Moderating Effect 1	1.000	1.000	1.000	1.000
National	0.813	0.816	0.889	0.728

Variable	Cronbach Alpha	Rho A	Composite Reliability	AVE
Economic Recovery				

Source: Researchers processed data (2021)

The results of processing the output of outer loading with related SmartPLS in the research model being tested are shown in Figure 2.



**Figure 2** Research Model

Measurement of the structural model or Inner Model on the sample results obtained, shown in Table 3.

**Table 3.** Inner Model Test Results

Research variable	R-Square	Communnality	GoF	Q-Square
Banking Digitization		0.828		
FinTech Industry	0.418	0.801	0.474	0.419
National Economic Recovery	0.259	0.728		

Source: Researchers processed data (2021)

Based on Table 3, GoF value > 0.36 indicates that the model has a very high overall suitability index. In addition, a Q-square value > 0.35 indicates that the model has a high level of predictive relevance. In Table 4., The R-square value of FinTech Industry variables > 0.30 indicates that the two variables have a very high influence category. Meanwhile, The R-square value of National Economic Recovery variables < 0.30 and < 0.13, indicates that the variables have a medium influence category.

**Table 4.** Measurement of R-Square (Inner Model Test)

Research variable	R-Square	R-Square Adjusted
FinTech Industry	0.418	0.412
National Economic Recovery	0.259	0.236

Source: Researchers processed data (2021)

Hypothesis testing had conducted to determine the relationship between two variables, either directly or indirectly. All measurement results for hypothesis testing, shown in Table 5.

**Table 5.** Hypothesis Test Results in Research

Hypotheses	Path	Original Sample Mean	STDEV	T-Statistics	P-Value	
H1: DP → IF	(direct effect)	0.647	0.645	0.063	10.200	0.000

Hypotheses	Path	Original Sample		STDEV	T-Statistics	P-Value
		Sample Mean	Mean			
H2:IF→PEN	(direct effect)	0.500	0.500	0.106	4.725	0.000
H3:DP→PEN	(direct effect)	0.349	0.365	0.100	3.478	0.001
H4:DP→IF→PEN	(mediating effect)	0.323	0.324	0.082	3.958	0.000
H5:ME1→PEN	(mediating effect)	0.055	0.064	0.060	0.975	0.361

Source: Researchers processed data (2021)

The hypothesis is accepted if both variables have a positive and significant effect by looking at the original sample value (positive or negative). The hypothesis is declared influential if the value of the T-Statistic is more than 1.96 and significant if the magnitude of the P-value is less than 0.05.

### 3.2. Discussion

This study's results also reveal that the "FinTech Industry" is not a disruption. But, it has the potential to collaborate with banking sectors through the development of cooperation. The development of this digital economic model expects to make a real contribution in encouraging national economic recovery. The role of the FinTech industry in mediating and moderating the influence of banking Digitization on national economic recovery during the COVID-19 pandemic in this empirical study is a novelty in research related to this digital economy.

Banking Digitization has a positive and significant impact on the FinTech Industry. Banking Digitization has the most dominant indicator is the Acceleration of Digital Transformation ( $X_2=0.963$ ), and for the FinTech Industry variable is Disruption / Collaboration ( $Y_2=0.953$ ), which means that the acceleration of digital transformation is needed to accelerate the digitization of banking by disrupting innovative or collaboration in the form of collaborative development. The facts that showed that many banking players anticipate the acceleration of banking Digitization by reorganizing their business methods and from Bank Indonesia, that bank cooperation with Fintech is increasingly open. Furthermore, Bank Indonesia has stated that Interlink Fintech and banks must work together to obtain optimal financial digitization results [19].

The FinTech Industry has a positive and significant impact on the National Economic Recovery. Variable FinTech Industry, the most dominant indicator is Disruption/Collaboration ( $Y_2=0.953$ ), namely in developing cooperation with Financial Services Institutions. Meanwhile, the National Economic Recovery variable has the most dominant indicator, namely Gross Domestic Product, with an outer loading indicator value of 0.895. It indicates that the FinTech Industry the development of cooperation will encourage the recovery of the national economy. The easiest thing to see is an increase in GDP. This result is in line with

the opinion of a study from Hanifa & Fisabilillah [20], which states that the Fintech Industry provides the expected opportunities during the current covid-19 pandemic by contributing and influencing Indonesia's economic recovery. The emergence of Banking Digitization had triggered by the rapid growth of the FinTech Industry [21].

The FinTech industry significantly mediates the influence of Banking Digitization on the National Economic Recovery. These findings are in line with the opinion of Bank Indonesia, which stated the importance of Interlink FinTech and banking and must work together in obtaining optimal results of financial digitization[19]. This result also confirms the opinion of Gian Ayu[22] which stated that Digitization is one of the keys to supporting national economic recovery.

The FinTech Industry is unable to moderate the Banking Industry towards the National Economic Recovery. However, the FinTech Industry could have the potential to significantly moderate the Digitization of Banking towards the recovery of the national economy. This result had strengthened by the study from Subanidja et al.[14], which revealed that "FinTech" is not a disruption but has the potential to collaborate with the banking sector. The FinTech industry will drive the acceleration of digital transformation in the banking sector[24]. The fact that several banks have collaborated with the FinTech industry. This development of this digital economic model expects to make a real contribution in encouraging national economic recovery. The role of the FinTech industry in mediating and moderating the influence of banking Digitization on national economic recovery during the COVID-19 pandemic in this empirical study is a novelty in research related to this digital economy.

This finding has implications, both from theoretical and practical aspects, especially practitioners in the banking sector in Indonesia and players in the FinTech industry, that collaboration between the banking sector and the FinTech industry is a must.

## 4. CONCLUSION

In summary, the results of this study reveal that the phenomenon of digital economic development can encourage national economic recovery during the current COVID-19 pandemic through the development of collaboration in the banking sector with the FinTech industry.

The digital economy through the FinTech Industry will significantly mediate the Digitization of banking to accelerate the recovery of the national economy. The FinTech industry can also have the potential to moderate banking Digitization to fully encourage national economic recovery during the COVID-19 pandemic. This fact is shown by the increasing number of the banking sector collaborating with the FinTech industry in a digital economic ecosystem.

For future digital economic research, studies related to digital economic inclusiveness are developed by involving the influence of the MSME sector to encourage national economic recovery.

## AUTHORS' CONTRIBUTIONS

Mercurius Broto Legowo: Conceptualization, Supervision, Validation, Paper Presenter.; Fangky A.Sorongan: Original draft preparation, Corresponding Author.; Steph Subanidja: Methodology, Formal analysis, Resources.

## ACKNOWLEDGMENTS

Thanks for the Republic of Indonesia's Ministry of Research and Technology provide us with this Multi-Year Research Grant through the 'Fundamental Research' schemes for 2021.

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