

## Business Models, Fintech, Investment Decisions, and Challenges in Bangka Belitung Islands Province

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### Abstract

This article introduces a historical view of fintech and discusses the ecosystem of the fintech sector. We then discuss various fintech business models and investment types. This article illustrates the use of real options for fintech investment decisions. Finally, technical, managerial challenges both fintech startups and traditional financial institutions are discussed. FinTechs are companies that combine technological and financial attributes in their business models. In recent years, the rise of FinTechs has attracted much attention since they challenge incumbent financial service companies including the traditional banking model. We aim to contribute to a better understanding of this phenomenon in Bangka Belitung Islands Province. Therefore, we develop a taxonomy of FinTech business models following a theoretically grounded and empirically validated approach for identifying and defining underlying business model elements. After developing our taxonomy, we use a clustering-based approach to identify business model archetypes on which to showcase our results, reexamine the assumptions made during taxonomy development, and validate the presented findings. Based on the gained insights, we discuss implications for research, practice and local policy makers, as well as directions for future research.

### Keywords:

FinTech; Digital Business Model; Digital Transformation; Bangka Belitung Islands Province.

## 1. INTRODUCTION

The current digital era is characterized by the emergence of new companies that take advantage of technological developments. These new companies are called startup companies or start ups. Referring to the notion of start-up, it is explained in more detail that a start-up is a company that has just been established or is still in the pioneering stage, which is generally engaged in technology and information in cyberspace or the internet. Thus, the term start-up does not apply to all business fields.

The movement of start-ups in Indonesia can be said to continue to experience rapid development. There are two types of start-ups, namely e-commerce and Financial Technology (FinTech). E-commerce is a company that provides an online trading platform, while the term FinTech is more centered on companies that innovate in the field of financial services with a touch of modern technology. E-commerce with FinTech synergizes with each other, where e-commerce is the buying and selling platform, while the presence of FinTech is to help the process of buying and selling so that it can be accepted by the wider community. With the existence of FinTech, for example, payment methods can become easier because FinTech continues to strive to make new breakthroughs to serve companies in general, and individuals in particular.

FinTech is an investment alternative that presents options for those of you who have the desire to access financial services in a practical, efficient, convenient and economical way. The existence of FinTech greatly affects the lifestyle of the economic community. The combination of effectiveness and technology has a positive impact on society in general.

There are several benefits of having FinTech in the community, the first benefit is that FinTech can help new developments in the field of technology start-ups that are mushrooming. This can help expand

employment and promote economic growth. This economic growth brings a second benefit, namely an increase in people's living standards. FinTech can reach people who cannot be reached by conventional banking. In addition, FinTech can also improve the macro economy. The convenience offered by FinTech can increase e-commerce sales. The last benefit that most people can enjoy is a reduction in loan interest.

The development of FinTech users also continues to grow from year to year. Sourced from the World Bank, FinTech users, which were initially 7% in 2007, grew to 20% in 2011, then increased to 36% in 2014, and in 2017 yesterday they reached 78% or there were 135-140 companies, with the total value of FinTech transactions in Indonesia in 2017 is estimated to reach IDR 202.77 trillion.

In Indonesia, the presence of FinTech has helped the community to solve various problems. Here are some types of FinTech that are developing and providing financial solutions for the people of Indonesia:

### **1.1. Crowd Funding**

Crowd funding or fundraising is one of the most popular FinTech models in various countries, including Indonesia. With this technology, people can raise funds or donate to an initiative or social program that they care about. One example is raising funds to build the R80 aircraft designed by BJ Habibie. An example of a FinTech start-up with a crowdfunding model that is currently popular in Indonesia is Kitabisa.com

### **1.2. Micro financing**

Microfinancing is one of the FinTech services that provides financial services for the lower middle class to help their daily life and finances. Because people from this economic group mostly do not have access to banking institutions, they also experience difficulties in obtaining venture capital to develop their businesses or livelihoods. Microfinancing tries to bridge these problems by channeling business capital directly from lenders to prospective borrowers. The business system is designed so that returns are competitive for lenders, but still attainable for borrowers. One of the startups engaged in microfinancing is Amartha, which connects micro entrepreneurs in rural areas with online investors.

### **1.3. P2P Lending Services**

This type is better known as FinTech for lending money. This FinTech helps people who need access to finance to meet their needs. With this FinTech, consumers can borrow money more easily to meet various needs of life without having to go through a convoluted process that is often found in conventional banks. One example of a FinTech that is engaged in lending money is AwanTunai, a startup that provides digital installment facilities safely and easily.

### **1.4. Market Comparison**

With this FinTech, you can compare various financial products from various financial service providers. FinTech can also function as a financial planner. With the help of FinTech, users can get several investment options for their future needs.

### **1.5. Digital Payment System**

This FinTech is engaged in providing services in the form of paying all bills such as credit & postpaid, credit cards, or PLN electricity tokens. One example of FinTech that is engaged in this digital payment system is the agency-based Payfazz to help Indonesians, especially those who do not have access to banks, to pay various bills every month. (source: <https://sikapiuangmu.ojk.go.id>)

The distribution of fintech lending loans is still dominated in Java. Therefore, he hopes that in the future the marketing of fintech lending players can be wider outside Java. It is also possible that most of them are located in Java, understanding of areas outside Java because this principle does not meet directly with customers, maybe understanding of the area also still needs to be improved.

Based on data from Bank Indonesia (BI), the number of merchants implementing the Quick Response Code Indonesian Standard (QRIS) in Bangka Belitung reached 77,500 as of April 2022. Central Bank collaboration with the Bangka Belitung Provincial Government, banks, payment system associations, and MSMEs must continue to be maintained and improved. Based on this, the Central Bank is currently continuing to digitize MSMEs so that the sector can immediately advance to class. Digitalization can make MSMEs the backbone through the convenience of cashless or cashless payment transactions.

## **2. RESEARCH METHOD**

The research method is basically a scientific way to get data with certain goals and uses (Sugiyono, 2015). Furthermore, the research method used is a qualitative descriptive method because the researcher wants to describe or describe the facts or circumstances or symptoms that appear in the development of fintech in Indonesia. This study uses data collection techniques with documents. According to (Sugiyono, 2015) documents can be in the form of writing, pictures or monumental works of someone. Documentation

method, which is looking for data about things or variables in the form of notes, transcripts, books, newspapers, magazines, inscriptions, meeting minutes, lenger, agenda, and so on. The method in this study was carried out by collecting all secondary data in the form of news about the fintech phenomenon in Indonesia, previous research journals about fintech, the results of general discussions of the government or parties with an interest in fintech and the opinions of experts on fintech in Indonesia. The data analysis technique used is interactive model data analysis. As shown in figure 1 below:

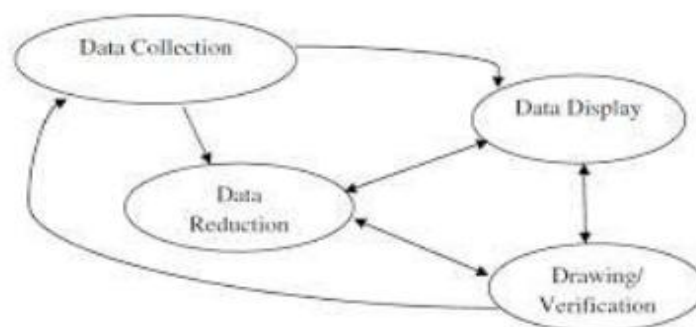


Figure 1. The data analysis technique (Sugiono, 2014)

### 3. RESULTS AND DISCUSSION

Fintech ecosystem to understand the competitive and collaborative dynamics in fintech innovation, we must first analyze the ecosystem. A stable symbiotic fintech ecosystem is instrumental in the growth of the fintech industry. Diemers, Lamaa, Salamat, and bushor-1424; No. of Pages 12 2 I. Lee, Y.J. Shin Steffens (2015) suggested that entrepreneurs, government, and financial institutions are the participants in a fintech ecosystem. We have identified five elements of the fintech ecosystem:

- a. Fintech startups (e.g., payment, wealth management, lending, crowdfunding, capital market, and insurance fintech companies);
- b. Technology developers (e.g., big data analytics, cloud computing, cryptocurrency, and social media developers);
- c. Government (e.g., financial regulators and legislature);
- d. Financial customers (e.g., individuals and organizations); and
- e. Traditional financial institutions (e.g., traditional banks, insurance companies, stock brokerage firms, and venture capitalists).

These elements symbiotically to able expectation contribute to theinnovation, stimulate economy in Bangka Belitung, facilitate collaboration and competition in the financial industry, and ultimately benefit consumers in the financial industry. There are the five elements of the fintech ecosystem.

At the center of the ecosystem are fintech startups. These companies are mostly entrepreneurial and have driven major innovations in the areas of payment, wealth management, lending, crowdfunding, capital market, and insurances by incurring lower operating costs, targeting more niche markets, and providing more personalized services than traditional financial firms. They are driving the phenomenon of unbundling financial services, which has been highly disruptive for banks (Walchek, 2015).

Major drivers of growth in the fintech sector, as traditional financial institutions are disadvantaged in this situation. Consumers, in Bangka Belitung area ratherthan relying on a single financial institution fortheir needs, are beginning to pick and choose services they would like from a variety of fintech companies. A consumer may manage his/her loan via pinjol is not Legal form Indonesian OJK, while using PayPal tomanage payments, Rocket Mortgage for his/hermortgage, and Robinhood for stock management. Venture capitalists and private equities are conducive to the creation of fintech startups and the level ofinvestments increasedsignificantly overtime as well.

There are many risks for fintech startups to deal with, including financial risk as well as regulatory risk, as mentioned above. The financial risk can vary based on what exactly the fintech specializes in. For example, a fintech offering financial services for student loans or mortgages may face counterparty risk that can be absorbed by a financial institution with large amounts of capital that a smaller startup would not be able to cover. Deploying robo-advisors for the wealth management of bonds, treasury bills, and stocks may expose customers to financial risk and the fintechs may have to take potentially serious responsibilities for any loss due to thealgorithmic failure of the robo-advisors. Recent lawsuits and a number of settlements arising fromthe faulty salesof derivative products by top-tier banks indicate that fintechs will not be immune to the liability arising from robo-advisors' faulty investment advices.

Overall, it is crucial for fintechs users to have a focus on risk management in addition to the technology management of the firm. As many fintechs were created after the 2008 financial crisis, they need to fully understand their exposure to liquidity risk, as well their interest rate risk. The present lending environment is vastly different from before due to the current ultra-low-interest rate environment in the financial market, so it is important for fintechs that are involved in lending to recognize how the current lending environment will impact them.

For fintech applications, critical information may be stored on mobile devices that oftentimes get lost or stolen. Security of mobile devices can also be compromised through payment applications such as Google Wallet and Master Card Pay Pass. As consumers can easily file complaints related to data security and privacy breaches to regulatory agencies, fintech companies need to develop appropriate measures to protect sensitive consumer data from unauthorized access. Furthermore, as trust plays an important role in the adoption of new technologies, it is in the fintech's best interest to maintain security and privacy as one of their top priorities. It is expected that regulatory agencies, consumer protection organizations, and fintechs keep working together to make fintech services a secure and value-adding experience for consumers.

Technology is increasingly shifting towards progress. Even the presence of technology now seems inseparable from our lives because everything feels easier and faster. Of course this makes changes in people's lifestyles, including the financial sector. Now anyone can send money without the need to go to a bank to borrow money only online or commonly known as fintech peer-to-peer (P2P) lending.

The growth of fintech P2P lending is currently growing rapidly and is easily accessible to people who are still difficult to get loan funds and for MSME actors who need capital for business development. Not only MSME businesses, there are also P2P lending fintechs that provide access to loans for those who need funds for education and health care with their respective standards, ranging from loan creditworthiness, loan nominal and tenor, interest rates, to security levels.

According to OJK Regulation No.77/POJK.01/2016, fintech lending/peer-to-peer lending/P2P lending is a service to borrow money in rupiah currency directly between creditors/lenders (lenders) and debtors. /Borrower (borrower) based on information technology. Fintech lending is also known as Information Technology-Based Lending and Borrowing Services (LPMUBTI).

As of April 2022, the total number of registered and licensed fintech operators in Indonesia is 102 companies. OJK urges the public to always use fintech P2P lending services that have been registered/licensed from the OJK.

Fintech P2P lending creates an online platform that provides facilities for fund owners to provide loans directly to debtors with higher returns, while fund borrowers can apply for credit directly to fund owners with easier terms and a faster process compared to institutions. conventional finance.

Investing in P2P lending promises a fairly high return per year, but investing must be in accordance with our profile and risk appetite and how to manage it. Therefore, the very first step in the investment process in P2P lending is to understand the risks. Don't let us invest funds without knowing the level and type of risk we face. The way P2P lending works is as follows:

- a. Membership registration. Users (lenders and borrowers) register online via a computer or smartphone;
- b. Borrowers apply for loans;
- c. The P2P lending platform analyzes and selects a suitable borrower to apply for a loan, including determining the risk level of the borrower;
- d. The selected borrower will be placed by the P2P lending platform in the online P2P lending marketplace along with comprehensive information about the profile and risks of the borrower;
- e. P2P lending investors analyze and select borrowers listed in the P2P lending marketplace provided by the platform;
- f. P2P lending investors make funding to selected borrowers through the P2P lending platform;
- g. Borrowers return loans according to the loan repayment schedule to the P2P lending platform;
- h. P2P lending investors receive loan repayments from borrowers through the platform.

### 3.1. Culture and Community Interests of the Bangka Belitung Islands Province About Fintech, Business Models, and Investment Decisions

Based on the latest data from the OJK in August 2022, the Number of Fintech Borrowers/Users in Bangka Belitung, the Number of Loan Recipients (accounts) is 40,146 and the Number of Loans Disbursed (billion IDR) is 61.64 and Bangka Belitung is ranked 6 (six) outside Java Island in Indonesia, and base on According Table 2 Accumulated Number of Lender Lending Transaction (unit of account) the Number of Lending is 71.212.

Table 1. Loan Disbursement to Borrowers Based on Location

Locations	June 2022	
	Number of Lenders (accounts)	Total Loan Disbursement (billion Rp)
a. Jawa	14.076.744	17.139,94

1. Banten	1.354.039	1.576,84
2. DKI Jakarta	5.412.120	6.552,89
3. Jawa Barat	4.061.498	4.871,62
4. Jawa Tengah	1.223.665	1.363,11
5. DI Yogyakarta	323.561	286,01
6. Jawa Timur	1.701.861	2.489,48
<b>b. Luar Jawa</b>	<b>3.111.408</b>	<b>3.530,75</b>
1. Nangroe Aceh Darussalam	41.958	43,99
2. Sumatera Utara	429.973	429,75
3. Sumatera Barat	148.881	163,08
4. Riau	213.949	206,63
5. Kepulauan Riau	159.581	163,04
6. Kepulauan Bangka Belitung	40.146	61,64
7. Jambi	84.935	110,75
8. Sumatera Selatan	319.769	305,14
9. Bengkulu	34.461	40,61
10. Lampung	256.461	259,89
11. Kalimantan Barat	112.003	124,40
12. Kalimantan Tengah	62.382	76,42
13. Kalimantan Utara	14.900	19,05
14. Kalimantan Timur	206.356	225,49
15. Kalimantan Selatan	154.039	163,96
16. Sulawesi Utara	106.552	140,86
17. Gorontalo	21.524	75,96
18. Sulawesi Tengah	40.881	68,80
19. Sulawesi Barat	11.006	20,53
20. Sulawesi Selatan	254.460	303,79
21. Sulawesi Tenggara	29.215	51,51
22. Bali	188.434	238,54
23. Nusa Tenggara Barat	78.474	99,73
24. Nusa Tenggara Timur	31.945	46,17
25. Maluku Utara	11.142	18,12
26. Maluku	21.394	25,33
27. Papua Barat	11.387	15,29
28. Papua	25.200	32,28
<b>Jumlah</b>	<b>17.188.152</b>	<b>20.670,69</b>

Table 2. Accumulated Number of Lender Lending Transaction (unit of account)

Locations	Accumulation Since the Company Was Established until the End of the Position on June 22
<b>a. Jawa</b>	
1. Banten	2.723.235
2. DKI Jakarta	213.241.772
3. Jawa Barat	3.932.019
4. Jawa Tengah	1.353.274
5. DI Yogyakarta	332.736
6. Jawa Timur	2.190.847
<b>b. Luar Jawa</b>	<b>3.976.768</b>
1. Nangroe Aceh Darussalam	34.518
2. Sumatera Utara	890.563

3. Sumatera Barat	129.128
4. Riau	225.034
5. Kepulauan Riau	154.148
6. Kepulauan Bangka Belitung	71.212
7. Jambi	103.836
8. Sumatera Selatan	245.285
9. Bengkulu	23.006
10. Lampung	281.617
11. Kalimantan Barat	206.553
12. Kalimantan Tengah	33.147
13. Kalimantan Utara	12.751
14. Kalimantan Timur	543.133
15. Kalimantan Selatan	70.193
16. Sulawesi Utara	212.445
17. Gorontalo	7.294
18. Sulawesi Tengah	31.759
19. Sulawesi Barat	6.227
20. Sulawesi Selatan	198.129
21. Sulawesi Tenggara	16.716
22. Bali	354.255
23. Nusa Tenggara Barat	28.369
24. Nusa Tenggara Timur	33.511
25. Maluku Utara	5.075
26. Maluku	14.895
27. Papua Barat	11.948
28. Papua	32.021

There are various Public Perceptions and Borrowers About P2P Fintech in Bangka Belitung in transactions including the benefits for borrowers that the loan application process is faster and easier and there is no need for collateral, but borrowers must also have the precautionary principle that borrowing in P2P lending also has risks, namely high interest rates and penalties that must be paid when late payments. The presence of this P2P lending fintech can help people in Bangka Belitung to access financing. Financial technology (fintech) lending companies are an alternative for Micro, Small and Medium Enterprises (MSMEs) to continue to grow. Fintech lending can encourage productive sectors, especially those outside Java, including in Bangka Belitung. The Financial Services Authority (OJK) noted that the total outstanding distribution of fintech lending loans to MSMEs had reached Rp. 13.2 trillion as of March 2022. This figure is equivalent to 36 percent of the total outstanding fintech lending loans. The community and Fintech users in Bangka Belitung hope that borrowing can provide benefits to the wider community. Of course, with cheaper, faster financing and a light interest burden.

In the future, OJK Indonesia will continue to encourage the distribution of fintech lending to productive sectors, such as Micro, Small and Medium Enterprises (MSMEs). OJK Indonesia emphasizes that the presence of online loans or loans is a blessing for the people in the regions during the Covid-19 pandemic. Because, the presence of this peer-to-peer lending fintech can help the community to access financing. This is a convenience, especially for people in areas that were previously difficult to get financing. This can already be done with peer-to-peer lending, especially in Archipelago areas such as Bangka Belitung.

### 3.2. Investment Decisions, and Challenges

The fintech (financial technology) sector has adapted drastically, especially in developing countries. Where, there are so many people who do not have a bank account and access to banking. Meanwhile, application marketing costs in Southeast Asia generally depend on the demand for fintech applications. The report shows that the average overall marketing cost in Indonesia is increasing in line with the increasing demand for fintech applications. Indonesia recorded the 3rd largest number of fintech users in the world, a proud achievement considering its population and distribution in Indonesia. AppsFlyer 2021 State of Finance App Marketing report examines 2.7 billion app installations in Asia Pacific out of a total of 4.7 billion global Fintech apps. Indonesia ranks third as the country with the most financial application installations among 15



other countries, according to the 2021 edition of the State of Finance App Marketing Report released by AppsFlyer. In fact, the level of fraud (cheating or fraud) on popular Indonesian applications has decreased drastically by up to 48%. In the report, Indonesia is ahead of other big countries such as the United States (US) which ranks fourth and Russia ranks fifth.

However, they still lost to India and Brazil who finished first and second. In Indonesia, users generally download financial service applications including mobile payment applications, credit cards, and loan applications. This category contributes greatly to the total number of downloads in the country. Meanwhile, although the level of application installation fraud in Southeast Asia is quite high, financial fraud has decreased. For lenders/lenders in Indonesian, this P2P lending system will make it easier to diversify funding, thereby increasing the opportunity to reap profits. However, if the lender has allocated money through P2P lending, the lender cannot withdraw the funded money whenever you want and there is a possibility that the borrower will default, so the funds lent is at risk of default. For this reason, diversification is very necessary so that you do not just put your funds in one borrower but can also invest in several other borrowers to minimize risk, moreover, lenders are also facilitated by the risk grade information determined by the P2P lending platform so that lenders can consider properly. before granting a loan. P2P lending is a very young fintech industry, but its development is very fast. The growth of digitization and increased internet penetration have made P2P lending platforms mushrooming in Indonesia.

#### 4. CONCLUSION

Because fintech in Bangka Belitung Province is such a recent development, there is still a paucity of studies on the social, regulatory, technological, and managerial aspects of fintech. This makes it very challenging for financial firms to make informed decisions regarding the investment in fintech projects. This article is one of the first studies to develop a high-level architectural view of the fintech sector. We presented five elements of the Fintech ecosystem and discussed six fintech business models before explaining the real options approach. Finally, six challenges facing the fintech sector were discussed.

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