

## Business Model Fintech Aggregator in Indonesia (Cermati.com Case Study)

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### Abstract.

*Development in technology is increasingly rapid and continues to bind human life, which also encourages technological innovation in financial services usually called Financial Technology or Fintech. Fintech is considered able to reach people who so far are still not reached by banking. The number of companies undertaking fintech businesses in Indonesia is increasing and this increase is one of the factors driving financial inclusion in Indonesia. One of those participating in the use of this technology is dealing as Fintech Aggregator, namely fintech that gathers information by providing comparisons of benefits, facilities, protection and prices available in bank and non-bank financial institution products. This research focuses on finding out about the Fintech Aggregator business model in Indonesia based on the study of 9 blocks of Business Model Canvas and 4 pillars of Value Design Model through case studies on Cermati.com. From the results based on the two business models above, it can be found out that each of the available block elements has described business activities in detail, in which based on the Business Model Canvas, the company has been able to effectively and efficiently determine its business strategy. Meanwhile, if viewed from the Value Design Model, the entire ecosystem in the company is in accordance with each other and moves in the same direction and has mutual connection between its 4 pillars. In this way, value creation can be carried out on the basis of complementary relationships.*

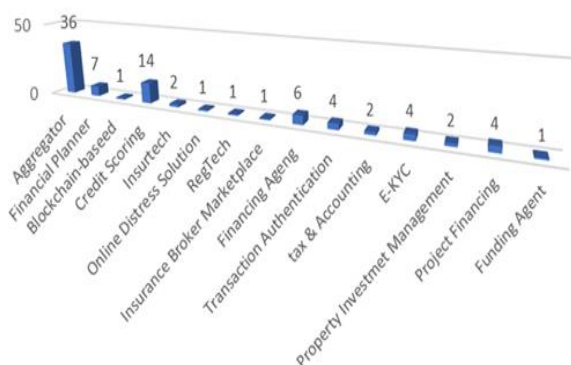
**Keywords:** *Fintech, Fintech Aggregator, Financial Inclusion, Business Model Canvas Canvas (BMC) and Value Design Model (VDM).*

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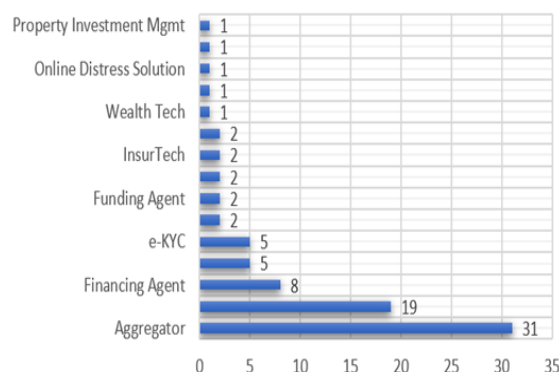
## I. INTRODUCTION

The development of fintech cannot be separated from the increasing use of internet in Indonesia. According to the data from the Indonesian Internet Service Providers Association (APJII), the level of internet penetration in Indonesia has reached 77.02% of the total population with the highest penetration in terms of income being people having salaries between 5-15 million Rupiah per month that reaches 96.83%, and if based on user age, the figure is very large, reaching 99.16% in the age range 13-18 years [1]. Based on data from the Indonesian Fintech Association (AFTECH), the number of fintech companies is 352 as of September 2022 [2]. The number of companies running fintech business in Indonesia is increasing and this increase is one of the factors driving financial inclusion in Indonesia [3]. This fintech development opens up opportunities for the emergence of various platforms that facilitate people's financial activities, in which the economy begins to be integrated through a network system that facilitates the economic activities of the community itself [4].

One of those participating in the use of this technology is those operating in the Fintech Market Aggregator. This fintech is very useful, but many people still do not know about this type [5]. Fintech Aggregator is a service provided by fintech companies that allows users to find out about financial products. The way this service works is simple, namely filtering various products online and digitally. If compared, the services of the Fintech Aggregator are similar to supermarket services so far known to public. By this service, users can compare financial products with each other from different service providers. This comparison was carried out digitally via the internet to make it more practical [6]. The results of the OJK National Survey on Financial Literacy and Inclusion (SNLIK) in 2022 show an increase in the community literacy index of 49.68% and community financial inclusion of 85.10%. This value increased compared to the results of 2019 SNLIK with a financial literacy index of 38.03% and financial inclusion of 76.19%. Based on data from OJK and AFTECH, Fintech Aggregator is a cluster in Digital Financial Inclusion (IKD) with the densest population [7].



**Fig 1.** Number of IKD Companies  
in December 2020



**Fig 2.** Number of IKD Companies  
in August 2022

The provisions on Fintech Aggregators are not specifically regulated but are subject to OJK Regulation No. 13/2018 on IKD in Financial Services Sector (POJK 13/2018). Based on POJK 13/2018, IKD is an activity of updating business processes, business models and financial instruments giving new added value in the financial services sector by involving digital ecosystem. To ensure that IKD achieves its ideal objectives, OJK applies a regulatory sandbox, namely a testing mechanism to assess the credibility of business processes, business models, financial instruments and organizers' governance [8]. One of the pioneers of Fintech Aggregator platform in Indonesia is Cermati.com. This is because based on the list of aggregator companies in OJK in 2018, this company was one of the 2 companies first listed and registered in OJK [9]. However, based on data released by OJK as of May 2022 [9] on the list of IKD aggregator companies, of the many aggregator companies developing since 2018, only Cermati.com continues to survive. Whereas as time passes by, more of the others are no longer operating or are trying to change direction into other types of fintech platform which may be considered more profitable and needed by the Indonesian people, especially for Fintech Aggregator companies which were greatly affected as the result of Covid-19 pandemic. Cermati.com, supported by large and strong investor capital by participation of series C shares, and the number of more than 200 employees and its application has been downloaded by more than 1 million people since before the Covid-19 pandemic, making Cermati.com transformed into a mature startup, as it is proven being able to survive and unshakable until now.

Previous research topics on Fintech Aggregators, especially in Indonesia, are still few, making the academic evidences regarding this type of Fintech limited [10]. For this reason, knowledge is required to understand business models that can describe relevant company activities and to know how much added value can be created for the company [11]. Of all types of business models, Business Model Canvas (BMC) is one of the most well-known and reliable for helping entrepreneurs change ideas into organized strategies and actionable business plans. BMC will provide entrepreneurs with a broad overview of every aspect of the business [12]. BMC can help entrepreneurs overcome certain risks and obtain more information on competitors, costs, customer segments, or market niches [13]. Many start-up entrepreneurs and small businesses are so busy trying to get started and survive that they spend little time planning. This BMC method establishes an overall framework for developing business strategies, detailed business plans, and/or prioritized action plans. Whereas, the Value Design Model (VDM) is a business model that is basically developed from the Internet of Things (IOT). With this business model, a manager in a company can more easily overcome various challenges by also considering the nature of the IOT ecosystem which is based on value design [14]. Until now, the author has not found any research from within the country and abroad that studies Fintech Aggregator business model based on BMC, Fintech Aggregator based on VDM, or Fintech Aggregator based on both models simultaneously. Thus the focus of this research is to reveal the business model of Fintech Aggregator companies in Indonesia by using Cermati.com as a research object, which is expected to be able to describe Fintech Aggregator business model in general in Indonesia.

## II. BASIC THEORY AND FRAMEWORK

### Basic Theory

#### **Financial Technology (Fintech)**

According to the National Digital Research Center (NDRC) in Dublin, Ireland, Fintech is defined as "innovation in financial services" or "innovation in fintech in financial services" (innovation in financial sector involving modern technology). Fintech financial transactions include payments, investments, borrowing money, transfers, financial plans and financial product comparisons. According to Bank Indonesia, Fintech means the result of combination between technology and financial services with a business model that changed from conventional to more moderate [15]. In a broader definition, Fintech is stated as an industry consisting of companies using technology in financial services to make financial systems and service delivery more efficient (World Bank, 2016). The Oxford Dictionary defines Fintech as computer software and other technology used to support or enable banking and financial services. Fintech Weekly then gives insight on Fintech as a company aiming to provide financial services using modern software and technology.

Fintech refers to a technology giving a financial solution [16] and Fintech is a combination of technology and financial features or can also be interpreted as innovation in financial sector with a touch of modern technology [17]. Fintech is a very fast-moving and dynamic industry in which there are many different business models [18], while financial technology is a new model of financial services that develops from the results of information technology innovation [19]. Fintech provides financial services integrated with technology to create facilities without intermediaries, to change the way businesses provide services and products, overcome privacy, regulatory and legal challenges, which can give comprehensive growth opportunities [20]. Fintech has effectively developed its position in global financial sector due to its good features and benefits to the industry [21]. In principle, the emergence of Fintech has played a role in improving and automating conventional processes for smooth operations [16].

#### **Fintech Aggregator**

Aggregator can literally be interpreted as a collector or blower [22]. The aggregator business model is actually quite well known in Indonesia and is widely used in various industries, especially digital business. In this case, the aggregator business process is carried out to support other parties or businesses that use its services [23]. Aggregator is a website collecting contents from certain types of media or contextual themes [24]. Fintech Aggregator or often called Market Aggregator is a type of Fintech that offers online services in the form of providing information on financial data presented to people who need to choose the best financial products [25]. Definition according to the Code of Conduct for Providing Responsible Aggregator Services in 2020 prepared by AFTEC and the Aggregator Working Group (Pokja), aggregators help their users to obtain information on products and/or services from financial service institutions by collecting, filtering and comparing information related to financial products and services through digital platforms in order to give added value for increasing financial literacy and inclusion, while still complying with other related regulations [26]. Whereas according to the OJK, an aggregator is a website or application that helps customers to obtain information on financial products and services by collecting information, filtering and comparing products and services between Financial Services Institutions (LJK) digitally [27]. This Fintech will offer services that can accommodate all transactions through one platform. Users of this platform are provided with ease of transaction verification because the process is fast and short. The mechanism is that consumers who have multiple banking accounts can register their accounts on this platform, which can then be used to monitor all banking transactions through one platform [28].



**Fig 3. Fintech Aggregator**

A Fintech Aggregator company is a company supervised by OJK. OJK classifies this Fintech Aggregator company as a Digital Financial Innovation (DFI) regulated in OJK Regulation Number 13/2018 on DFI in Financial Services Sector. As OJK's efforts in order that IKD achieves its goals, OJK applies a regulatory sandbox, namely a mechanism to test and assess the reliability of business processes and models, financial instruments and governance of the organizers [29]. This regulatory sandbox testing was carried out by OJK, which was earlier carried out by Bank Indonesia specifically for payment systems. Fintech of this type of aggregator has great opportunities in the business world, especially for small and medium entrepreneurs and newly established companies. In practice, matters frequently encountered by entrepreneurs are limited time, choices and information on funding suitable with the financial conditions of the business they own. For this reason, aggregator technology was chosen to help people understand more that there are alternatives easily and transparently accessible according to the respective business backgrounds. This is due to its ability to help them determine targets for distributing funds to the community without having to incur technical development costs [23].

### **Business Model**

The emergence of Internet in the business world has encouraged the use of the term business model [30]. Since the new economic era in the 1990s, there has been an explosion in the use of the term business model in academic and non-academic literatures [31]. Established businesses must regularly update their business models so as not to fail to anticipate future trends and challenges. (Investopedia.com). Understanding business models on how businesses run, is demonstrated by various levels of abstraction in the literature [32]. The business model was developed based on the theory of Alexander Osterwalder and Yves Pigneur in 2010, stating that a business model is a blueprint describing how a business creates, gives and captures value, in order to make money [33]. In this way, the business model can be interpreted as a basic concept to explain how a business makes a profit because the company can know what products are produced and what its target market is like [34]. The main challenge related to the study of business models is that the concept of business models is less theoretical as the basis in economics or in business studies [35]. Designing a business model is the approach a company takes to produce, deliver its products and services to customers. Although not all new business models create value, they can serve as a new method for increasing transaction speed, increasing customer security and privacy, improving information exchange and service quality, providing unique solutions to customer problems, and creating value for all parties involved [36].

### **Business Model Canvas (BMC)**

In his analysis on evolution of the concept of a business model, it can be concluded that the concept of a business model can be applied in a management application and information system (IS) [37]. A business model represents the content, structure, and management of transactions designed in such a way that they can create value through the exploitation of business opportunities. By graphic explanations of the business model contents, BMC provides an overview and potential for comparison and development [33]. BMC is also an analytical tool that is promising and easy to use by stakeholders to be able to quickly map, analyze and discuss the company's situation according to the nine elements of BMC [38]. The 9 blocks that are interrelated, and can show the running of a business [33], are described as follows:

#### **Customer Segment**

Customer segment represents a group of individuals or business units that a business wants to reach and serve. Customer segment defines various groups of people or organizations that a company wants to reach and serve. Customer segment is central to the business model, therefore businesses must be built around an understanding on the needs of a specific customer segment [33]. Therefore, customers are the heart of any business model. Without customers, no company can survive for long. This is because customer segment is the party who contributes to the company in generating profits by purchasing products [39].

#### **Value Proposition**

Value proposition consists of all the group benefits provided by the company beyond the core position of the offering [40]. Value proposition represents a combination of products and services that creates value for a particular customer segment that can solve customer problems or meet customer needs. Value Proposition describes a collection of products and services that create value for certain customer

segments and is the reason why customers switch from one company to another, so that they can solve customer problems or fulfill customer needs. There are at least 11 forms of value proposition, namely Newness, Performance, Customization, Getting The Jobs Done, Design, Brand/Status, Price, Cost Reduction, Risk Reaction, Accessibility and Comfort/Usability [33].

### **Channel**

Channel represents how a business communicates with its customer segments and reaches them to provide a value proposition. Channel is a group of organizations having the function of connecting companies with customers through the process of product or service delivery [41]. Marketing channels are a group of organizations that are interdependent and mutually participate in the process of making the products or services available for use or consumption (they are a series of paths followed by products or services after production, the culmination of which is purchase by the end users) [40]. Distribution channel is a series of organizational or producer activities that carry out all required functions and depend on each other to deliver their products from the producer to the final buyer or consumer [42]. Channels are marketing channels which can also be interpreted as activities that try to expedite and facilitate the delivery of goods and services from producers to consumers.

### **Customer Relationships**

Customer relationships represent various types of relationships a business builds with specific customer segments. Companies must find out what kind of relationships they want to build with each customer segment. Customer relationships are intended to create new relationships with new customers, to retain old customers, and to offer old and new products or services to old and new customers [38].

### **Key Resources**

These key resource blocks represent the most important assets required for the business model to work. Every business model requires key resources. Resources enable companies to create and offer value propositions, reach markets, maintain relationships with customer segments, and earn revenue. Key Resources describe the most important assets needed to make a business model function. These resources enable companies to create and offer value propositions, reach markets, maintain relationships with customer segments, and earn revenue.

### **Key Activities**

Key activities indicate the most important things that must be done by the company to make the business model work. Every business model requires a number of key activities as the most important actions that must be carried out by the business in order to be able to operate successfully. Key activities are also required to create and deliver a value proposition, reach markets, maintain customer relationships and earn revenue. Key activities explain the most important things a company must do to make its business model function. Each model requires a number of key activities as the most important actions that a company must take to operate successfully.

### **Key Partnership**

Key partnership represents the network of suppliers and partners making a business model work. Partners are business entities playing a role in business profits and losses. The 4 types of partnerships, such as strategic alliances between non-competitors, strategic partnerships between competitors, joint ventures to develop new businesses and buyer and supplier relationships to guarantee reliable supplies [33].

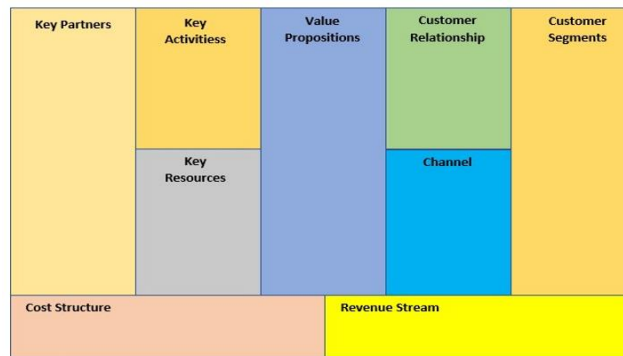
### **Cost Structure**

Cost Structure explains all costs incurred to operate a business model and explains the most important costs incurred when operating in a particular business model. Two types of cost structures include cost reduction and development value [33]. There are 2 types of cost structures [33]. The first is Cost Driven which emphasizes efforts to minimize costs to make the cost structure lean. The way to do this is by establishing customer segments that are price sensitive (low budget), offering a cheap value proposition, reducing human resources through automation, and outsourcing non-core activities. The second is Value Driven which does not emphasize cost efficiency but focuses on giving customer satisfaction through quality service. The way to do this is by targeting customer segments that are not sensitive to price, a value proposition that offers luxury and personalized service.



### Revenue Stream

Revenue flow shows the cash generated by each customer segment. The business model involves two types of revenue streams, including revenue from transactions resulted from a single customer payment and revenue from ongoing payments either to give a value proposition to the customer or to give support to the customer through purchases, representing the cash a company generates from each customer segment. There are several ways to build income streams, namely Asset Sales, Usage Fees, Subscription Fees, Rentals, Licenses, Intermediary Service Fees, Advertisements and Donations [33].



**Fig 4. BMC Building Blocks [33]**

### Value Design Model (VDM)

Internet of Things (IOT) is a new paradigm showing that everything around us is connected to a network and everyone has access to information anytime and anywhere [43]. The interconnection of objects is described by IOT with various benefits, among others for processes of identification, communication, sensing and data collection [44]. The development of this IOT business perspective Evolution is pushed by the IOT trend as a technology platform that has transformed into a business ecosystem and a shift no longer focused on business models but towards designing ecosystem business models. The literature relevant to various views of business models is about value creation and value capture. A manager can design a viable IOT business model by considering various aspects related to these two essential value tasks. The 4 important pillars/elements/nodes in this value design-based business model [14] are:

#### Value Drivers

These Value Drivers consist of various individual and participant motivations, which promote the birth of an ecosystem to meet the need to produce value, realize innovation, and make money.

#### Value Nodes

Value Nodes cover various actors, activities, or processes (automated) connected with other nodes to create value. Additionally, this node can include autonomous factors, such as smart sensors, preprogrammed machines, and associated intelligence (avatars).

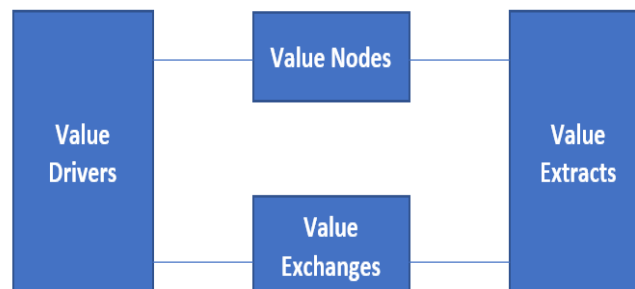
#### Value Exchanges

Value Exchanges refer to exchanges of value in different ways, resources, knowledge, and information. Value exchanges occur between and within It is described that these flows can be tangible or intangible [45]. Basically, these exchanges show “how the machine works” by exchanging resources, knowledge, money, and information in different ways. In other words, actions occurring in a business ecosystem are intended to create and capture value. Value exchange is very important, because it can determine how income is generated and distributed in the ecosystem.

#### Value Extracts

Value Extract refers to the part of the ecosystem that extracts value; in other words, it shows a meaningful value to be monetized. Value Extract is useful because it can help the ecosystem to focus on the relevant parts; for example, a manager can “enlarge” and “reduce” an ecosystem to focus on something that is beneficial from a business perspective. This portion can be a single activity, an automated process, an individual, or through commercial and non-profit organizations, or a group of organizations, organization networks, or even network groups, where value flows between those nodes. Value Extract is very helpful in defining core values and aspects underlying it in the ecosystem.

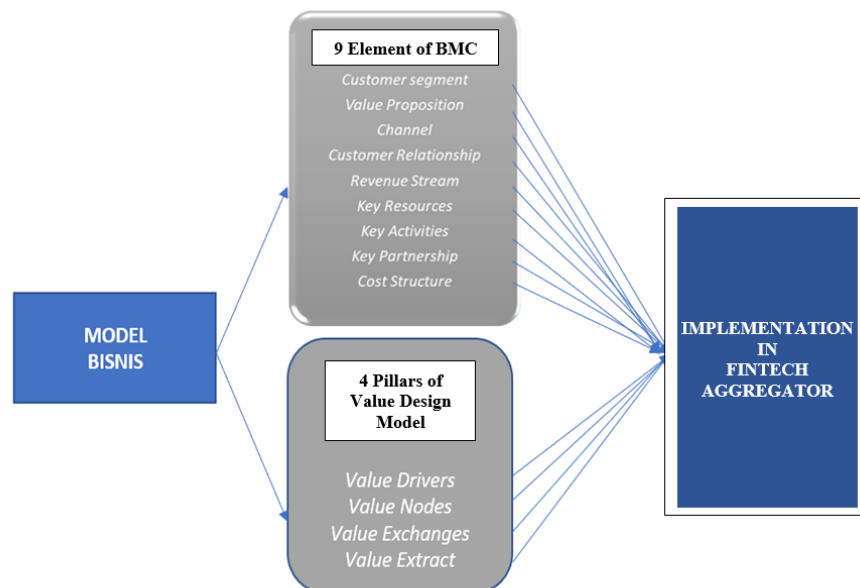
The concept of value design describes how value is intentionally created and captured in an ecosystem [14]. This means that value design is the entire architecture that maps the basic structure of an ecosystem's business model. On one hand, this gives boundaries for ecosystems in describing all entities that create and capture value. On the other hand, it is the sum of the 4 value pillars that produce operational patterns. In this case, value design is a concept quite similar to the concept of a business model. The difference is that, while "business model" is usually associated with a company's business model, value design can be defined to be applied at the ecosystem level. Thus, "value design" may be better suited to an ecosystem context than "business model". In addition, different value designs can be categorized, examined, and compared in the same way as different types of business models.



**Fig 5.** Key Pillars of a Business Model Design Tool for IOT Ecosystems [14]

### **Research Framework**

The frame of mind for this research is to review the 9 elements in Business Model Canvas and the 4 elements of Value Design Model. The mapping of the 9 elements in Business Model Canvas is Customer Segment, Value Proposition, Channels, Customer Relationship, Key Resources, Key Activities, Key Partnership, Cost Structure and Revenue Stream. Whereas the 4 main pillars/elements/segments of Value Design Model are Value Drivers, Value Nodes, Value Exchanges and Value Extract.

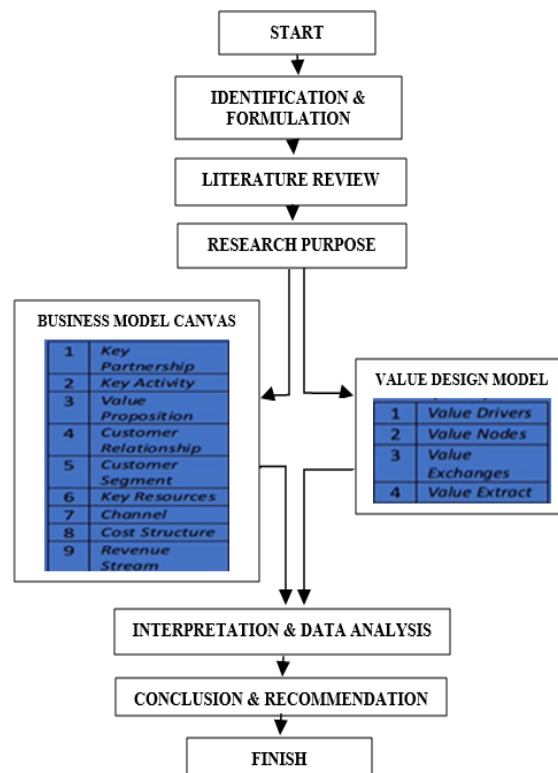


**Fig. 6.** Research Framework

## **III. METHODS**

### **A. Approach and Design**

This research was carried out by qualitative approach. Qualitative research is research that explores and understands the meanings of various individuals or groups of people that arise from social problems [46], aiming to answer questions about "what", "how", or "why" of a phenomenon [47]. Therefore, the focus of qualitative research is on the meaning of process and results [48]. The design of this research is a single case study. The research stages are outlined in the following figure:



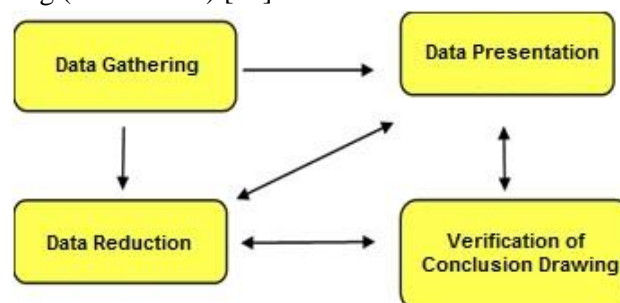
**Fig 7.** Diagram of Research Stages

### B. Data Collection and Research Subject

The data collection method was carried out by written interviews with the questionnaire submitted directly to the source persons of Cermati.com. Furthermore, to deepen the results of written interviews obtained, a judgment sampling technique was used, which is an interview technique with source persons who came from influential people or officials of Cermati.com. In addition, data are also collected using observation and documentation. In written interviews, from the list of source persons at least 5 people are selected, who are competent to answer questions prepared by the author on the business and technical aspects of Fintech Aggregator, in this case consisting of an internal team in Cermati.com supervised directly by the CEO of Cermati.com and having members of people or officials who understand company business operations, company business development, legislation and compliance, corporate finance, and information technology and applications of the company.

### C. Data Analysis

Data analysis can be interpreted as a process of responding to data, preparing, sorting and processing them into a systematic and meaningful arrangement [49]. These stages of data analysis aim to answer various questions in the research. The analysis activities are carried out in 3 stages, namely data reduction, data display and conclusion drawing (verification) [50].



**Fig 8.** Analysis of Qualitative Data [49]

To test this research, it was carried out with credibility (internal validity) using the triangulation technique, a technique of checking data from various sources in various ways and at various times [51], in order to test the validity of the external side based on research results on the grouped source persons.



#### IV. RESULTS AND DISCUSSION

Based on the results of interviews and documentation studies on Cermati, an overview of Business Model Canvas and Value Design Model from Cermati.com as a fintech aggregator can be obtained as follows:

##### A. Business Model Canvas of Cermati.com

##### 1. Key Partnerships

Cermati.com establishes key/main partnerships with Banks, Insurance Companies, Payment Point Online Banking (PPOB) for the purposes of paying various bills (phone credit, data packages, electricity bills, etc.), and with online sales agents and payment service partners (E-wallet, QRIS, joint accounts, Paypal, etc.). Through this partnership, Cermati.com on one hand obtains access to offer financial products from those partners and on the other hand obtains profit margins in the form of commissions. This is in accordance with the theory put forward by Osterwalder & Pigneur (2012) that a company creates the partnerships in order to optimize business, reduce risks and gain the resources it has.

##### 2. Key Activities

The main activities of Cermati.com are:

- a. Providing a choice of financial products from various financial institutions;
- b. Comparing financial products to enable consumers to choose the ones that suit their needs;
- c. Giving financial product recommendations that suit consumer needs;
- d. Facilitating the application process and financial product transactions between consumers and financial institutions;
- e. Giving education for consumers to understand financial products and choose appropriate products;
- f. Developing websites and applications according to consumer needs; and
- g. Ensuring data security and business activities according to current regulations in Indonesia.

This is in accordance with what stated that in a key/main activity are also found activities related to maintenance, apart from being required for the operations [52] of Cermati.com.

##### 3. Value Proposition

Value proposition is a benefit or value offered by a company to its users or customers [52]. In general, there are 4 benefits or values that Cermati has, namely:

- a. Helping its users or customers make it easier to obtain financial products that suit their needs through partnerships with many financial institutions, which can be accessed simply through 1 platform. The functions are:
  - i. Giving payment solutions in order to facilitate transactions and reduce dependence on cash;
  - ii. Giving easier access to credit/debt;
  - iii. Giving access to insurance products as part of risk management;
  - iv. As a medium for investment and financial planning, savings and retirement planning.
- b. Providing features that make it easier for users/customers in order to maintain service transparency and accountability, namely:
  - i. Facilitating users or customers in comparing financial products;
  - ii. Giving information on the status of customer or user application submissions; and
  - iii. Providing a means of communication and feedback from users/customers through various varied channels such as social media, customer complaint services on websites/applications and customer service.
  - iv. Service and experience are important. This is proven by Cermati.com always which constantly carries out benchmarking analysis with other companies domestically and internationally, in order to continuously improve services and better experiences for its customers or users.
  - v. Giving a consistent, high level of security for customer data by applying the Business Continuity Plan and Disaster/Data Recovery Plan, applying IT security certification namely ISO 27001 and PCI/DSS and applying good ethical standards and privacy policies.

Based on the description above, the value proposition offered by Cermati.com is able to solve problems and fulfill the desires of users/customers. In this way, financial activities can be carried out more comfortably and freely.

#### **4. Customer Relationship**

Customer relationship relates to how a company relates to its users/customers. The relationship must be good so that users or customers are loyal. Cermati.com builds business interactions with its users/customers as follows:

- a. Utilizing technology, user experience design and services that are of value to users/customers, namely building a user-friendly website or application to attract interest and easy to use. Interaction efforts by Cermati.com with its users/customers are carried out both before, during and post transactions by combining contemporary methods such as through the website, application, and social media, but old methods are still used, such as via telephone, WhatsApp and e-mail.
- b. Preparing feedback channels from users in the form of reviews or comments which can be submitted via YouTube, Play Store, Apple Store and Customer Service.
- c. Creating educational content called Cermati University. This content is intended to give clear and easy-to-understand information about products or services to its users/customers. Besides, this educational content also becomes a kind of information service shortcut received more quickly than if you have to first contact customer service or answer via e-mail.
- d. Efforts to maintain user/customer loyalty are made by giving incentives in the form of price discounts, although specifically there is no loyalty program implemented.

Cermati.com, in its efforts to improve service, also conducts user/customer satisfaction surveys and monitors application rating and ranking regularly, both on Google and in Application Store. This is to enable measuring the level of user/customer satisfaction with the service. Thus, the above has described what makes it possible for companies to carry out their main activities in creating and offering value propositions, reaching markets, maintaining relationships with customers and receiving income [52].

#### **5. Customer Segment**

Customer segment describes which customers or consumers the company must serve because consumers are the key to all business and therefore the company must determine who will be its consumers [52]. Consumer segment or market target of Cermati.com is individual customers who need financial products and services, millennial and young professionals who are looking for digital financial product solutions, the under-banked population and online shoppers who need digital payment solutions and digital products.

More specifically related to this consumer segment are customers who have the characteristics of:

- a. Tech-Savvy, namely people who are used to using applications, websites and digital.
- b. Parties with limited access to banking products.

Based on the above matters, it can be observed that Cermati has been able to determine clear and well-controlled market directions and objectives.

#### **6. Key Resources**

The main resources of Cermati.com are the management team, employees, technology and infrastructure, data and analysis, partnerships with financial institutions, content and information, customer and capital and investment user base, regulatory compliance, reputation and brand, industry knowledge and security system and consumer protection. In general, Cermati's main resources can be divided into 2, namely:

- a. Technology, Infrastructure and Software, consisting of:
  - i. Computer and Hardware;
  - ii. Web Infrastructure;
  - iii. Cloud Computing;
  - iv. Information Security;
  - v. Security Hardware and Software;
  - vi. Software Collaboration;
  - vii. E-commerce and Website.

- b. Competent and trained Human Resources that each role must have, as well as compatibility with the culture and values of Cermati.com, namely Care, Hunger, People Smart, and Humility.

In addition to the continuously updated and developed Technology factor, the Human Resources factor also undergoes a development process, namely through various training and development programs which aim to ensure that every human resource at Cermati has the skills in line with industrial developments. The form of appreciation from Cermati.com given to employees is competitive benefits and compensation. In terms of skills and expertise, Cermati.com requires that its human resources to understand the financial industry in Indonesia and understand Cermati.com's role as a fintech aggregator and to be able to work in a team. These skills or expertise are considered greatly influencing Cermati.com's success in various aspects such as product innovation and development, productivity, product and service quality, competitive advantage, customer service, cost management, etc.

## **7. Channels**

The channels used by Cermati.com for business are in 2 ways, namely online and offline. Communication media used online are websites, Cermati application, and social media such as Instagram, Twitter, Facebook, and LinkedIn. Whereas for offline it still relies on customer service (via telephone or e-mail). Further, the promotional media in the context of product marketing to users or customers used by Cermati.com is digital marketing, social media, educational content, e-mail/whatsapp blast and push notifications. The promotional media until now considered most effective and efficient in reaching its users or customers are push notifications and e-mail. Whereas to obtain feedback from users/customers, Cermati.com utilizes the NPS (Net Promoter Score) survey, a survey based on key performance indicators that can be used to measure customer loyalty and satisfaction.

NPS is used to find out how likely customers are to recommend the company, its products or services to other parties. In addition, Cermati.com also opens customer service as a medium for its users or customers to convey their complaints or problems experienced. Other than that, users/customers can also give their reviews or comments via YouTube, Playstore or Appstore. Based on the above matters, it can be observed that Cermati is very adaptive to today's ways of communicating which can reach its users or customers more widely using various more effective and efficient methods. Therefore, both customer needs and problems can be handled more quickly, on the other hand, for Cermati, this increasingly easier communication also has a positive effect, as it can periodically make evaluations to improve its services more quickly, thus, this is one of the plus points for Cermati to prevent its users or customers from leaving it.

## **8. Cost Structure**

The cost structure at Cermati.com consists of Selling & Partnership Cost, Salary Cost, Operational Cost, Marketing Cost, Software & Tools Cost, and Depreciation Cost. Of these costs, those categorized as Fixed Costs are Salary Cost, Marketing Cost, Software & Tools Cost, Operational Cost, and Depreciation Cost, while those included as Variable Cost is Selling & Partnership Cost. The costs that are very influential on Cermati.com's operations are Personnel Costs (Salary Cost) and Office Rental Cost (Operational Costs). As efforts of efficiency on the costs that burden the company, Cermati.com carries out various methods, including setting targets, making periodical reviews and analyses of plans as a form of Cermati.com in maintaining employee productivity. Whereas to reduce office operational costs, Cermati.com established a hybrid way of working to enable control the requirement of office space. Cermati.com as a fintech aggregator is a company practicing a structure of Cost Driven type, namely an effort to focus on minimizing costs so that the Cost Structure becomes leaner [51]. The method is by establishing the Customer Segment that is more sensitive to price (low budget), offering a cheaper value proposition, reducing human resources by automation mechanisms, and diverting resources that are not core activities (Outsourcing).

## **9. Revenue Streams**

Cermati.com's Revenue Stream is in the form of commissions it obtains from financial institutions (banks and insurance) as well as profit margins from digital product sales (PPOB). This means that Cermati.com does not collect any fees directly from its users or customers. In addition, Cermati.com also has another source of income in the form of digital space rental for placing banners of other companies on Cermati.com's websites and applications. For users or customers, the payment methods provided are also

easy. Users or customers can pay transaction fees either online, either in cash or by installment method without credit card, bank card (ATM), virtual account, e-money and via certain minimarkets. A business model does not have to depend on just 1 type of income but can utilize 2 types of income called transaction income and recurring income. Thus, if viewed from its income flow, this has been done by Cermati.com, which not only relies on fixed income resulting from transactions made by its users or customers, but also utilizes the results of digital space rental as additional income. The following Figure shows the Business Model Canvas Block of Cermati.com in detail.

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
Banks Insurance Companies Payment Point Online Banking (PPOB) Offline Selling Agent Service Providers	Provides a choice of financial products from various financial institutions. Compare financial products so consumers can choose the appropriate one with his needs. Provide recommendations for financial products that suit consumer needs. Facilitate the application process and financial product transactions between consumers and financial institutions. Provide education for consumers to understand financial products and choose suitable product. Develop websites and applications according to consumer needs. Ensure data security and business activities in accordance with applicable regulations Indonesia.	<u>Banking Products:</u> Credit Cards, Credit Without Collateral (KTA), Mortgage and Account Savings <u>Insurance:</u> Vehicle, Health and Travel <u>Digital Products:</u> Mobile phone credit, The payment of Electricity Bill, Internet, Telephone, etc. <u>This Platform offers:</u> Facilities for customers to filed a secure savings, credit cards, and insurance with one click. Online bill payment easily and safely. Contains educational content in form of videos and articles for improving financial literacy, so that customers can take the right financial decision.	Building business interaction with customers through technology aspects, user design experience, and services for customer, namely via: <u>Website, Application &amp; Social Media</u> (Instagram, Twitter, Facebook, LinkedIn); and <u>Customer Services</u> [Telephone, WhatsApp, and E-mail]. <u>Feedback is given via:</u> Comments on YouTube, Playstore and App Store <u>Channels</u> Business is run online and offlines. Online: Website, Apps Offline: Agen Communication is established with various media, as follows: Website Applications Social Media (Instagram, Twitter, Facebook, LinkedIn Customer Services (telephone & e-mail) Media Promotion: Digital Marketing Social Media Educational content E-mail blast Whatsapp blast Push Notification Feedback is obtained with method as follows: Net Promoter Survey (NPS) quarterly a year Customer Services Review or comments in Youtube, Playstore and Applications.	Individual customers who need a product and financial services such as loans, credit cards, savings, insurance and investment. Millennial and young professional who is looking for a solution of digital finance products. Underbanked Population who requires opening accounts and other financial products applications. Online shoppers who requires a digital solution and digital payment
	<u>Key Resources</u> Technology, Infrastructure and Software, consists of: Computers and hardware (Hardware). Network Infrastructure. Business Application Software. Cloud Computing. Information Security. Database Management System. Hardware and devices Security Software. Collaboration Software. E-commerce and website. Human Resources, consist of: Management team & employees. Section Technology and Infrastructure. Data & Analysis section. Partnership section with Financial Institutions. Content & Information section. Customer parts & user based. Capital and Investment section. Regulatory & Compliance Section. Reputation and Brand section. Industry Knowledge Section. Security system & Consumer Protection			

Cost Structure	Revenue Stream
Variable Cost: Selling & Partnership Cost Fixed Cost: Salary Cost, Marketing cost, Software & Tools Cost, Operational Cost. Depreciation Cost Cost structure based on the sequence of the biggest percentage: Selling & Partnership Cost Salary Cost Operational Cost Marketing Cost Software & Tools Cost Depreciation Cost	The main source of income: Commission from financial institutions for each customer, obtained from bank or insurance company. Margin profits from the sale of digital products (PPOB). Other sources of income.

**Fig 9.** Business Model Canvas of Cermati.com

## **B. Value Design Model of Cermati.com**

Value Design Model (VDM) is a business model related to Value Creation and Value Capture. A viable Internet of Things (IOT) business model should consider various aspects related to these two values [14], and therefore this business model is considered more suitable to be applied to Cermati.com as a fintech aggregator. These two aspects are intended to be implemented in the 4 pillars of Value Design Model which can further be formulated based on the research results as follows:

### **1. Value Driver**

Value Driver is a value driving pillar which consists of individual motivation and collective motivation and encourages the birth of an ecosystem to fulfill the need to produce value, realize innovation and make money [14]. The essence of this pillar is what the company's business objectives are, what factors motivate the company. The motivating factor for Cermati.com is undertaking a business as a mission to increase financial literacy and realize financial inclusion in Indonesia by being a financial aggregator and giving financial product education for its users or customers. Further, when linked to the 17 Sustainable Development Goals prepared by member countries of the United Nations (UN) in 2015 and expected to be achieved by 2030, Cermati.com by its products hopes to be able to help people's life to achieve society without poverty, without hunger, having healthy and prosperous life, having quality education, and having proper jobs and achieving economic growth, with reduced inequality, and responsible consumption and production. By knowing what the Value Driver of Cermati.com is, this becomes a common milestone which on one hand aims to ensure that the ecosystem as a whole can move in the same direction, but on the other hand will ensure that the business models, although different, can complement each other.

### **2. Value Nodes**

Value Nodes include various actors, activities, or (automated) processes that are connected with other nodes to create value in companies [14]. The point is to identify who the actors are, what activities and processes play a role in creating values in companies. For Cermati.com, the value creation process is carried out based on business results involving various roles and departments within it in order to provide attractive and useful services for its users or customers. The actors and activities are namely the Business Development and Partnership division assigned to establish business partnerships with financial institutions, the Marketing Team division assigned to get potential customers and market the products of Cermati.com, the Customer Support division assigned to ensure that users or customers can get the best services and find solutions to every user or customer problem, the Product Management and Tech Team division assigned to define and produce fintech aggregator features according to the needs of users or customers, and the Back Office Team division assigned to ensure that Cermati.com's business activities run smoothly. The process of creating value is carried out based on complementary/interconnected relationship and close communication to be able to create the best value acceptable to its users or customers. By the combination of various roles in Cermati.com, there is significant heterogeneity of value nodes in an IOT ecosystem [14].

### **3. Value Exchanges**

Value Exchanges are exchanges of value related to different means, resources, knowledge and information. Value exchanges occur between and within different value nodes in the ecosystem, and exchanges can be explained through different value streams [14]. In essence, Value Exchanges describe any actions taking place in a business ecosystem to create and capture value. Value Exchanges play a role in



identifying and capturing the company's maximum potential. In this Value Exchange there is a reciprocal benefit factor, in other words what benefits the company and users/customers get in their relationship with each other. For Cermati.com, the benefits obtained from its users or customers are:

- a. The sales profits from financial products made by users or customers;
- b. There is an expectation of customers to become customers having active roles. If there are inputs or complaints, users can give inputs and feedbacks so that Cermati.com can improve services to customers.

Whereas the benefits that users/customers can receive from Cermati.com are:

- a. Easier access to financial products, complete financial product information, easy digital application process and competitive fees;
- b. Ease and comfort, data security, and attractive prices in meeting financial product needs;

Related to the benefits that Cermati.com can provide to stakeholders other than its users or customers are wider customer access for financial institution partners to market and distribute their products so as to increase their products sales. Basically, this exchange flow is a way to determine the need for resources, knowledge, money and information in different ways [14].

#### 4. Value Extracts

Value Extracts are part of the ecosystem that produces value [14]. In other words, Value Extracts are any values and nodes of a company that can be monetized and are the result of relevant value exchanges necessary for value creation and capture. The results of this research reveal that the Value Extracts of Cermati.com consist of information and various financial products presented on one platform, extensive partnerships with financial institutions, and the ease and security of transactions offered. These three nodes are the basis for Cermati.com to generate value that can be monetized. This is proven by the occurrence of thousands of transactions on Cermati.com every month. From this it can also be interpreted that exchange of values well-meeting exists, therefore it is equally beneficial for Cermati.com and its users or customers. Further, to be sustainable, Cermati.com always follows trends and completes its portfolio by continuously trying to add other financial products that were not available before. The following is the Value Design Model of Cermati stated in Figure 10 below.

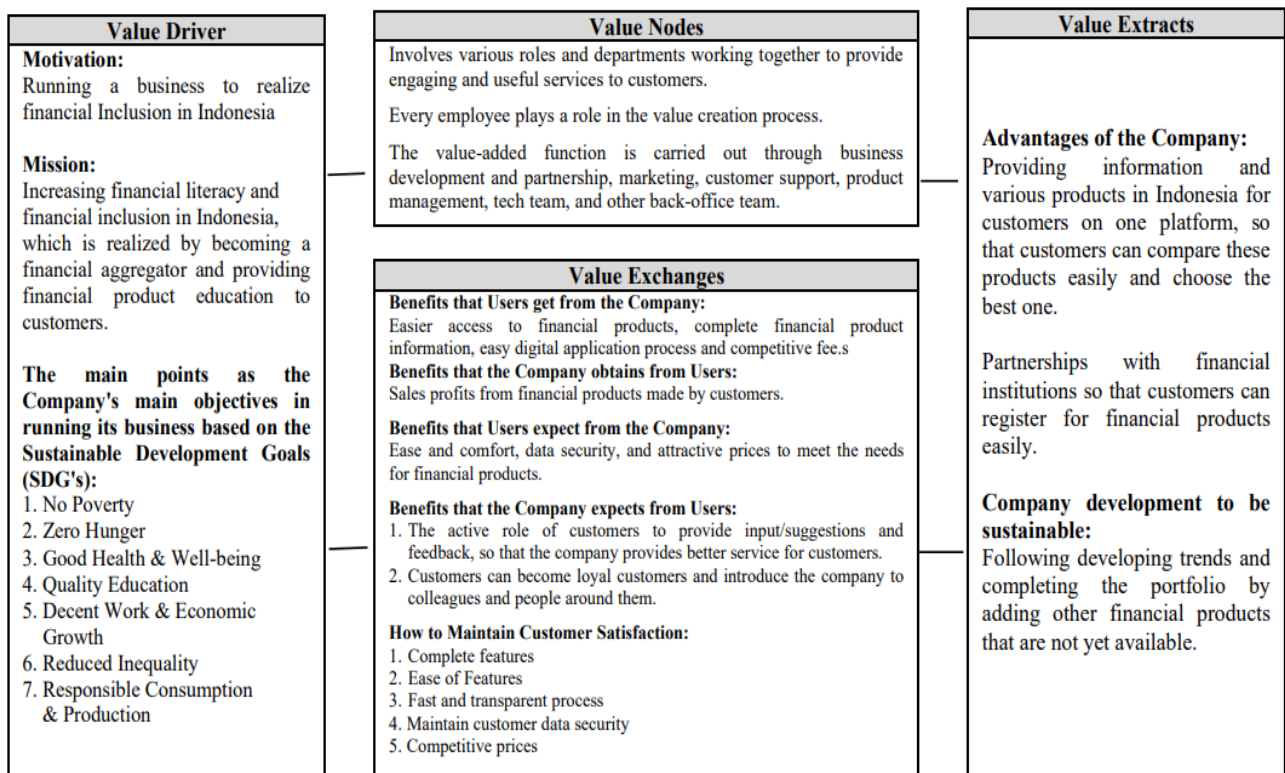


Fig 10. Value Design Model of Cermati.com

## **V. CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

Based on the results of research on fintech aggregator business models using Business Model Canvas and Value Design Model using the Cermati.com case study, it can be concluded that based on the 9 blocks of Business Model Canvas of Cermati.com, a comprehensive sample of business activities of a fintech aggregator company has been shown, which can be observed from each element in the block that has described the business activities in detail. The Business Model Canvas has been able to determine the business strategy of fintech aggregators in Indonesia effectively. Whereas from the 4 pillars of Value Design Model of Cermati.com, it can be observed that in the fintech aggregator company, all the 4 pillars in question are compatible with each other and move in the same direction and are interrelated, where in the process, the value creation is carried out based on complementary/interconnected relationships and close communication of the company to be able to create the best value acceptable to its users or customers.

Further, when comparing the two business models analyzed in this research, it can be concluded that Business Model Canvas focuses more on business model architecture, which is able to display a large picture of the business including the parts or components in it, however Business Model Canvas cannot describe the dynamics between the parts contained in the 9 blocks, even though a system cannot be understood if only by studying each part individually. This is different from Value Design Model which focuses more on the relationships created from the 4 pillars, which shows the existing synchronization between the company's goals and what the users or customers expect. This is important because it is not enough for a system to just be able to explain based on each part separately, but it must also be able to explain regarding the dynamics created between all the parts comprehensively. Regardless of their respective advantages and disadvantages, these two types of business models can still be used as complementary references so that they will be very helpful for business owners to further clarify the direction of their business and achieve their goals.

### **Recommendations**

#### **1. Theoretical Aspect**

The researcher realizes that the source persons and respondents directly related to this research are few. Therefore, it is recommended for future researchers to increase the number of source persons and respondents in order to obtain varied results, so that comparisons can be made between one fintech aggregator business model and other fintech aggregator business models operating in Indonesia. In this way, it is expected that the results of research related to problems in this topic will be more accurate.

#### **2. Practical Aspects**

Cermati.com should be able to continue developing its business because there is the potential. The development can be carried out in several blocks of Business Model Canvas, namely:

**Key Partnership Block.** There are still many types of financial products available on the market, but not yet available on the platform, so it would be more attractive to customers if they could have a wider range of financial services. **Key Resources Block.** Until now, training programs for employees are still not prioritized. This should begin to be implemented in order to increase employees' abilities along with anticipating the increasing number of competitors in the future, considering that this business by its convenience has the potential to be liked by people. **Channel Block.** Promotional media must be more intensive because compared to other types of fintech it is still very little heard in public. **Revenue Stream Block.** It has been a public secret that startup companies like this have different business goals from conventional companies, so that income is not a priority because in general it highly depends on investor funds. Therefore, sources of income must be very well managed to be able to reduce large costs so as to make the company sustainable until its goals are achieved.

For other fintech aggregator companies currently still struggling, or for those who are planning to build a fintech aggregator business, the Cermati.com fintech aggregator business model can be used as a model to drive or develop fintech aggregator business they are currently undertaking or will undertake while paying attention to some shortcomings referred to above as suggestions for improving/perfecting their business. For people who use fintech aggregators, considering that this platform really helps users' financial activities, it is recommended that people using this fintech aggregator platform are active in giving input

and/or feedback to companies providing fintech aggregator platforms. This is very important for platform development in order to meet user/customer satisfaction alone. For the government, it is hoped that the results of this research could be additional guidelines for increasing financial inclusion by developing public financial literacy or education. Government is advised to plan and periodically facilitate informative activities such as seminars, discussions and the like related to public finance topics, especially the introduction of fintech and fintech aggregator.

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