

## Business Process Engineering of Opening a Simpedes Saving Account Using Value-Added and Flow Analysis Methods

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### Abstract

The level of competition and demands for higher business quality encourage the company to develop in all sectors to achieve company goals, including the banking sector, which has main business processes, one of which is serving customers in the account opening process. Therefore, this study conducted a business process analysis to open a Simpedes savings account and then build a more optimal business process improvement engineering. Business process engineering by conducting business process analysis using the BPMN standard, value-added analysis, flow analysis, and simulation using the Bizagi Modeler software. Based on the simulation at Level 2-Time Analysis, the existing business process takes 52 minutes to complete 22 activities. Meanwhile, business process improvement only takes 19 minutes for 16 account opening activities. According to the accumulated calculations, the simulation results on the Level 3-Resource Analysis business process improvement with the implementation of writing pad procurement and the raw material utilization will increase by 13,23%. The costs incurred at the beginning will be significant but have long-term benefits so that the results of business process engineering show better improvements in terms of time and cost that companies can use as business process optimization recommendations.

**Keywords:** Open Account, Business Process Reengineering, BPMN, Value-Added Analysis, Simulation, Flow Analysis, Bizagi Modeler.

### Abstrak

*Tingkat persaingan dan tuntutan kualitas bisnis yang semakin tinggi mendorong perusahaan untuk melakukan perkembangan di semua sektor demi mencapai tujuan perusahaan termasuk sektor perbankan yang memiliki proses bisnis utama salah satunya melayani nasabah dalam proses pembukaan rekening. Oleh sebab itu, pada penelitian ini dilakukan analisa proses bisnis pembukaan rekening tabungan Simpedes kemudian membangun rekayasa proses bisnis improvement yang lebih optimal. Rekayasa proses bisnis dengan melakukan analisa proses bisnis menggunakan standar Business Process Model and Notation (BPMN) dengan metode valued added analysis, flow analysis dan simulasi menggunakan aplikasi Bizagi Modeler. Berdasarkan hasil simulasi pada Level-2 Time Analysis proses bisnis existing membutuhkan waktu 52 menit untuk menyelesaikan 22 aktivitas. Sedangkan proses bisnis improvement hanya membutuhkan 19 menit untuk 16 aktivitas pembukaan rekening. Berdasarkan simulasi yang dilakukan pada Level-3 Resource Analysis, proses bisnis improvement dengan implementasi pengadaan writing pad menunjukkan utilization bahan baku akan bertambah 13,23. Sesuai dengan akumulasi perhitungan maka biaya yang dikeluarkan di awal akan besar namun memiliki keuntungan jangka panjang. Sehingga hasil rekayasa proses bisnis menunjukkan improvement yang dibangun lebih baik dari sisi waktu dan biaya yang dapat perusahaan gunakan sebagai rekomendasi optimalisasi proses bisnis.*

**Kata kunci:** Pembukaan Rekening, Rekayasa Proses Bisnis, Analisa Value Added, Simulasi, Analisa Flow, Bizagi Modeler.

### INTRODUCTION

Many industries, both government and private sectors, are making developments to achieve company goals due to the increasingly high level of competition and business quality demands.

One of them is improving the quality of business processes. Changes in business process activities are driven by digitalization, where technology becomes the core business in company operations to manage their business. Based on complex operational activities due to diverse types of

services and transaction frequency, stakeholders encourage banks to improve the quality of customer-centric services by improving business processes.

PT. Bank Rakyat Indonesia is a state-owned banking company prioritizing services to the micro, small, and medium enterprises (MSMEs) segment (Head of Corporate Secretariat Division PT. Bank Rakyat Indonesia, 2022). Various savings and loan products focusing on the welfare of small communities make Bank Rakyat Indonesia popular and in demand by the public (Head of Corporate Secretariat Division PT. Bank Rakyat Indonesia, 2022). One of the excellent products in his organization is the opening of a Simpedes savings account. Simpedes is a product that is in great demand by the public. The 2022 sustainability report shows that Simpedes products first rank with 2,494,348 account openings compared to other products (Head of Corporate Secretariat Division PT. Bank Rakyat Indonesia, 2022). On the other hand, the BRI work unit also focuses on opening customer accounts, which Simpedes savings because it is a microproduct (Merlinda, 2023).

Based on benchmark results, it shows that the account opening process at BRI is currently not running effectively. Activities still have the potential to cause costs and require a relatively long time to open an account (Cespedes, 2018; Service & Contact Center Division, 2022). To increase the effectiveness and speed of customer transactions, BRI conducts business process reengineering by simplifying customer business processes in transactions and providing devices or machines that support customers in transactions (Head of Corporate Secretariat Division PT. Bank Rakyat Indonesia, 2022).

Therefore, in this study, a business process analysis was carried out in the operational process of opening an account at PT. Bank Rakyat Indonesia and Target's business process engineering were designed to update and improve business process activities. The initiative will be carried out to improve customer service and experience in transacting at BRI by continuing to make improvements by simplifying the Bank's operational business processes. Business process analysis is carried out using a combined method of qualitative (Chong, 2013) and quantitative (Chong, 2013) business process analysis that has been proven by previous research in conducting business process optimization analysis and increasing the company's efficiency in achieving its goals (Cakra et al., 2022). Applying value-added analysis and flow analysis approaches. This leads to the results of improving business processes that are running so

that they are more effective in terms of time, cost, and resources (Fitria et al., 2022).

## RESEARCH METHODS

This study applies a combined qualitative and quantitative method, a curative descriptive approach that aims to describe current business processes accurately and systematically based on quantitative analysis data (Dewantari, 2018). The steps in this study are described as follows:

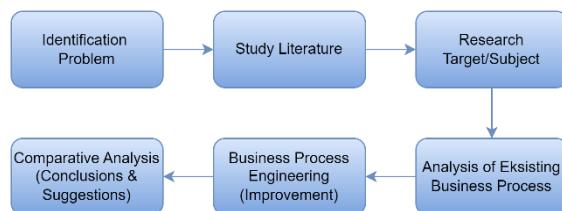


Figure 1. Research Flow (Larasati et al., 2017)

### 1. Research Target/Subject

The data collection stage is carried out to collect all the data needed in the analysis process. This study uses primary data obtained directly from observations and interviews. It also uses secondary data from documents that support this research, namely company Standard Operation Procedure (SOP) and Service Level Agreement (SLA). Details of the data collection techniques carried out in this study are as follows:

- Direct observation is a technique used to obtain data by making direct observations at the research site to observe the course of the account opening process.
- The type of interview used is a structured interview in the form of open questions with a Subject Matter Expert (SME), namely 1 (one) supervisor and 2 (two) customer service agents who open accounts.
- Library Research as for documents that support researchers in analyzing and engineering the account opening process, namely company documents, Service Level Agreement (SLA) and Standard Operational Procedure (SOP).

### 2. Types of research

- Qualitative analysis, with value-added analysis, is used to examine the business process of account opening to produce a value classification of each account opening activity in the form of NVA (Non-value Added), BVA (Business Value Added), and VA (Value Added) (Chong, 2013).

- b. Quantitative analysis, with flow analysis and simulation to analyze the time, cost, and resources needed. The qualitative analysis data will be simulated using the Bizagi modeler tool.
- c. Redesign analysis or so-called process improvement, aims to reorganize business processes so as to make significant progress in the implementation of business processes to ensure that business processes can eliminate or reduce processes that have no value, minimize time, maximize the use of assets, eliminate excess expenses, and give the company a competitive advantage.

## RESULTS AND DISCUSSION

The operational process of opening an account involves three stakeholders, namely customer service (CS), customers, and supervisors (SPV). From the data from observations and interviews with SMEs, business process modeling was carried out using the Business Process Model

and Notation (BPMN) (Larasati et al., 2017; Tambusai et al., 2023). Business process modeling is primary data that describes the entire account opening process from start to finish.

The flow of account sign-up generally starts with the customer visiting the unit office, then taking the queue number with the aim of going to CS and applying for an account opening. Customer Service serves account opening with several supporting activities in it, ranging from verification of customer personal data by adjusting customer provisions in accordance with established criteria suitability of data input to approval by supervisors as authorized officials in approving customer account opening. Account opening. In the existing account opening process, there are a total of 22 activities, with 20 tasks, 2 exclusive gateways, 2 sub-processes, and 5 waiting times, as can be seen in Figure 2. There are two sub-processes created to simplify the description of the account opening process, and two sub-processes are the customer data verification process and the cross-selling process.

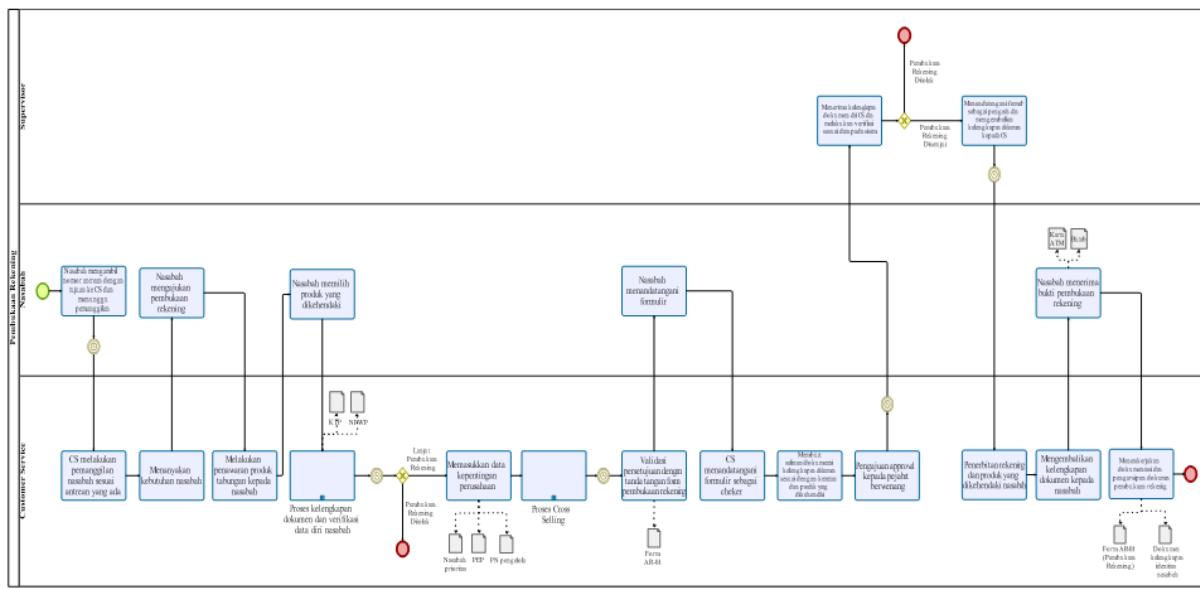


Figure 2. Flow Open Account Existing

Based on the fact that the business process model has been valid and verified, mapping and categorizing the value of each activity with value-added (VA) analysis (Villasdechanon & Sopadang, 2018) is carried out. The results of the analysis are

categorized as 2 (two) VA activities and 20 (twenty) BVAs. Activities categorized as VA and BVA can be increased or maintained as the activity is carried out. As for NVA activity, it can be eliminated, as can be seen in Figure 3.

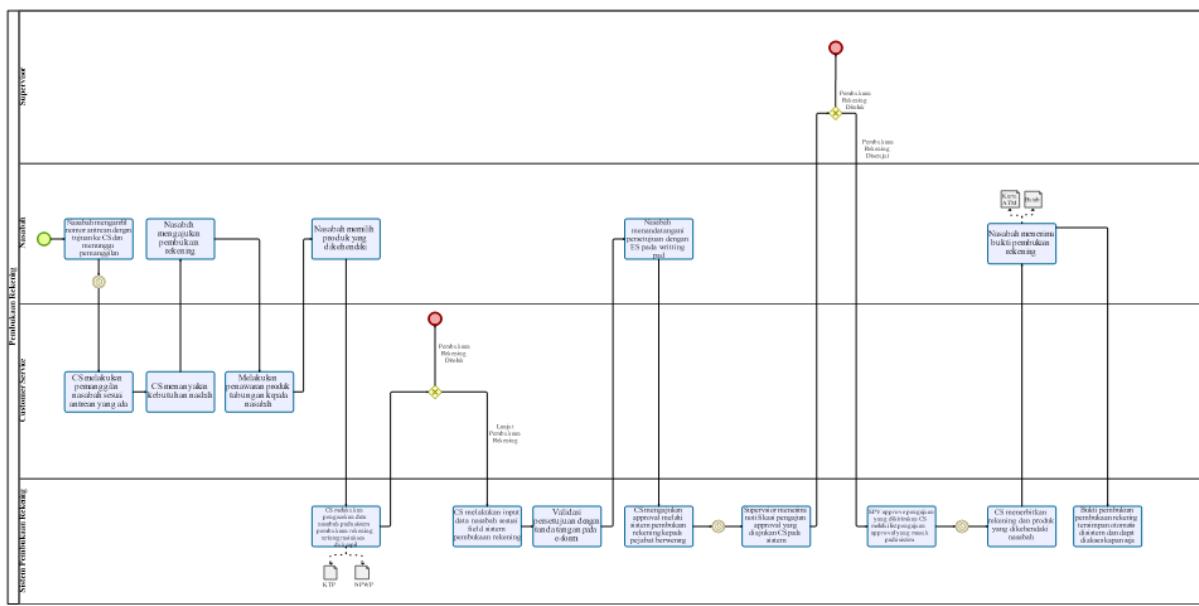


Figure 3. Flow Open Account Improvement

Business processes are labeled or categorized under improvement techniques that are eliminated and given improvement. The following details of the activities to be improved can be seen in Table 1.

Table 1. Analysis of Business Process Improvement Account Opening

Activity	Reason For Redesign	Repair Techniques
The process of verification and completeness of customer personal data documents	Verification of customer data is carried out using a system that has been integrated with access catatan kependudukan. So, in the account opening process, you only need to use this system because the physical form has been input into the system as an e-form. This also aims to make it paperless (Fitria et al., 2022).	Upgrading
Cross Selling Process	The cross-selling process in the account opening process must be eliminated. It can be done in other banking transactions by utilizing media such as outbound calling, WhatsApp blasts, email, and others done selectively (situationally) and effectively. Based on benchmark results at other banks, there is no cross-selling activity in account opening services, so customers feel that the service obtained is speedy.	Elimination
Validation process with signature on account opening form by the customer, CS as a checker, and SPV as the signer	Conventional or wet signatures on paper will cost a lot and carry excessive risks, such as losing documents. Therefore, optimization is carried out by developing e-forms and validation with e-signs that will maintain customer transaction data.	Upgrading
Make copies of documentation of the completeness of documents in accordance with the provisions and desired products.	Copies of documents will only take a few seconds. By using the e-form, the documentation will be saved automatically, and there is no need to copy the document (Tambusai et al., 2023; Vilasdechanon & Sopadang, 2018).	Upgrading
Submission of approval to authorized officials	Submission of approval using an e-form is better because CS does not need to go to the SPV with a copy of the	Upgrading

Activity	Reason For Redesign	Repair Techniques
	completeness of the documents. CS only needs to input the supervisor's Number and apply for approval, and the SPV will check approval in the system.	
The supervisor receives the completeness of the documents from CS and verifies the data on the system.	Verification of customer data is better done using a system where SPV has previously received notifications for approval, along with the completeness of customer documents so that SPV can check through the system.	<i>Upgrading</i>
Arrange the documentation and filing of account opening documents	Copies of documents will only take some time. By using the e-form, the documentation will be stored automatically in the system database.	<i>Upgrading</i>

Source: (Fitria et al., 2022; Tambusai et al., 2023; Vilasdechanon & Sopadang, 2018)

### Business Process Improvement Modeling

This improved business process aims to form a process that can help simplify the account opening business process, aiming that customers and companies will get better output than before (Helmi et al., 2018). Based on the analysis of existing business processes and simulations in Bizagi, some activities can be optimized (Wijayanto et al., 2019). Business process performance can be improved by reduction or elimination. The selection of a process to improve based on high-cost processes, new technologies available, and the application of new methods.

Table 1 is an explanation of improvement based on the value-added analysis of existing business processes, given an explanation from the previous process (existing) to the improvement process by elimination and a redesign. The flow of the account opening process has been improved; there are a total of 16 (sixteen) activities in it, with 2 (two) exclusive gateways and 3 (three) waiting times with the actors involved, namely customer service, account opening systems, customers, and supervisors.

The general description of the improvement account opening process begins with the customer visiting the unit office, then taking the queue number with the aim of going to Customer Service and applying for account opening. Customer Service serves account opening using an account opening system, from verification of customer personal data to submission of approval, in addition to taking customer signatures using a writing pad, where supervisors who get approval submissions from CS use the system. With the application of the system and writing, it can minimize and simplify the account opening process.

### Results of Simulation of Existing Account Opening and Improvement

At this stage, a comparison of the two business processes that have been simulated is made. The aspects seen in the comparison of the two business processes are time analysis and resource analysis, and to find out how much improvement is proposed. Here are the results of the comparison of the two business processes using Bizagi Modeler.

Table 2. Resource Analysis Process Business Existing

Resource	Utilization	Total fixed cost	Total unit cost	Total cost
<b>Customer Service</b>	25,35%	45.500.000	11.400	45.511.400
<b>Supervisor</b>	2,82%	15.000.000	666.67	15.000.666.67
<b>Nasabah</b>	19,72%	27.500	0	27.500
<b>Bahan Baku (Form-AR01)</b>	27,11%	500	1.355.834	677.917.000
<b>Total</b>		60.528.000	1.367.900.67	738.456.566.67

Table 2 is the result of a resource simulation that shows the total cost in the process of opening an existing account amounting to 738.456.566,67.

Table 3. Resource Analysis Process Business Improvement

Resource	Utilization	Total fixed cost	Total unit cost	Total cost
<b>Customer Service</b>	20.45%	24.500.000	2.850	24.502.850
<b>Supervisor</b>	4,55%	7.500.000	333.33	7.500.333.33
<b>Nasabah</b>	18,18%	22.000	0	22.000
<b>Bahan Baku (Writing Pad)</b>	40,34%	1.200.000	247.85	1.200.247.85
<b>Total</b>		33.222.000	3.431,18	33.225.431,18

Table 3 is the result of a resource simulation that shows the total cost in the process of opening an improvement account amounting to 33.225.431,18,

and It can be seen that it is undoubtedly more minor than the existing process.

Table 4. Comparison of Existing Account Opening and Improvement

Time Analysis Open Account	Min. time	Max. time	Total time
Existing Procurement Business Process	1h 11m	1h 11m	52m
Improvement Business Process	29m	29m	19m

Table 5. Comparison of Existing Account Opening and Improvement

Resource	Customer Service	Supervisor	Customer	Raw Materials
Existing Business Process	25,35%	2,82%	19,72%	27,11%
Improvement Business Process	20,45%	4,55%	18,18%	40,34%

The results of calculations and simulations of the current business process analysis and improvement show that the business analysis provided by improvement has better performance than the current business process in terms of time and quality 19 minutes, 40,34% even though on the cost side it will experience an increase in initial cost expenditure only. Long-term advantages can be seen in Tables 4 and 5. Business process improvement minimizes the time required to complete one cycle of the account opening process, as evidenced by only requiring 19 minutes to complete 16 activities. In business process improvement, an information system assists in the account opening process, which can simplify service flow. With the procurement of writing pads that facilitate the process of verifying customer transactions, companies can save on monthly expenses and time serving customers.

## CONCLUSION AND SUGGESTIONS

### Conclusion

Reengineering existing business processes using value-added business process analysis, flow analysis, and simulation shows that business process improvement is more optimal in terms of time and cost. The existing business process takes 52 minutes to complete 22 activities, while the improvement business process takes 19 minutes to

complete 16 activities in one account opening cycle. The recommendations given to improve business processes are the use of information systems and the procurement of writing pads as a tool for taking signatures electronically.

### Suggestions

Advice to the company, If there is a failure in population records data access, it is necessary to mitigate risks to minimize losses that will arise. To support simplification and automation in the account opening process, further analysis can be carried out at other BRI units and use other application recommendations as a tool to model and simulate processes instead of just using Bizagi Modeler.

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