

## OPTIMISING OPERATIONS IN INTERIOR DESIGN BUSINESS PROCESS AT PT. BLESSED KREASINDO HOUSE

Fakhrian Maulana<sup>1</sup>, Liane Okdinawati<sup>2</sup>

Master of Business Administration, School of Business and Management, Institute Bandung Technology

Email: Fakhrian\_maulana@sbm-itb.ac.id<sup>1</sup>, aneu.okdinawati@sbm-itb.ac.id<sup>2</sup>

### Abstract

*This study aims to improve and streamline business procedures at PT. Kreasindo Blessing House . The study's history is thoroughly covered throughout the paper, emphasising the topic's importance and how it relates to the business's operations. This study's primary focus is on the problem of project delays, which has been seriously hurting PT. Rumah Kreasindo Berkah's finances. It is a fresh topic of inquiry because the efficiency advances of the interior design industry have yet to be thoroughly studied. Research to date has yet to address this sector's potential for optimisation. A combination of observational methods and interviews with upper management were used in this study. The study includes an analysis of the complete production flow and internal staff members of PT. Kreasindo Blessing House . The study produces new business procedures and well-thought-out solutions to improve productivity and shorten project turnaround times. The results will provide suggestions for increasing productivity and reducing project implementation delays. Each organisation applies efficiency measures differently, and theoretical ideas might not match actual situations. This study emphasises how crucial it is to modify efficiency tactics to fit the particular circumstances of each business, providing insightful information to academics and business professionals.*

**Keywords:** Business Process, DMAIC, Fishbone, Interior Design, Efficiency.

Corresponding Author: Fakhrian Maulana  
E-mail: Fakhrian\_maulana@sbm-itb.ac.id



### Introduction

According to CNBC Indonesia, the demand for interior design has increased, and the increase began to be seen in the first quarter of 2022. The increase touched 45% and is expected to increase further. Not only that, the rise of property development has also contributed to the high demand for interior design services. This is inseparable from the incessant development of the property sector, especially in big cities (Hasibuan, 2022).

PT Rumah Kreasindo Berkah is an Interior Consultant company engaged in the creative industry. Established in 2018, PT Rumah Kreasindo Berkah, better known as Rumah Louie Project (RLP), is engaged in architecture and interior consulting. Carrying the concept of a "one-stop Interior Design Provider", RLP provides all client needs from design to build and service for long-term maintenance. In the fierce competition in the Interior design industry, PT Rumah Kreasindo Berkah has an excellent increasing trend of project volume from FY2021 until FY2022. The increase in the number of projects completed by RLP is 115%. However, on the side of work that has been running, it is often encountered that some projects experience delays, resulting in increased work time and other costs that arise from this due to a delay in Q1 and Q2 2023, in Q3 2023 PT. Rumah Kreasindo Berkah has only achieved 20 projects so far. The CEO of RLP has a target of completing 45 projects in FY2023. From 2021 to Q3 2023, the number of delays recorded at PT. Rumah Kreasindo Berkah accounted for 39% of the total 61 projects completed in that period. This is one factor that needs improvement to increase effectiveness and profit margins.

As a result of an interview with the ownprojectr of PT Rumah Kreasindo Berkah, delays in a project being completed on time can result in direct and indirect financial losses. Direct losses

can take the form of potential profits for the company because it cannot add new projects. After all, the old project still needs to be completed, increasing operational costs. In addition, indirect losses from the delay of a project will reduce customer satisfaction and lousy brand image and reduce the possibility of clients using our services again. By evaluating this matter, it is hoped that PT. Rumah Kreasindo Berkah can overcome project delays, increase operational effectiveness, and achieve better profit margins.

### **Research methods**

According to Creswell (2013), qualitative research explores and understands the meaning individuals or groups ascribe to a social human problem, focusing on observations and interviews with high-ranking officials such as the CEO, Project Manager and Project Supervisor at PT. Rumah Kreasindo Berkah, this method was adopted to gain direct and in-depth insight into critical aspects to optimise operational efficiency in the interior design production process. By combining field observations and in-depth interviews, this research presents a holistic and in-depth picture of operational conditions at PT. Kreasindo Blessing House.

#### **1. Interviews**

Adams (2021) characterises interviews as guided discussions where interviewers raise issues and probe interviewees to uncover their insights. He states that interviews involve "directed conversations" (p.77), distinguishing them from casual dialogue. The main characteristic of an interview is direct face-to-face contact between the information seeker and the information source. The chosen interviewees represent crucial perspectives, with the CEO of PT. Rumah Kreasindo Berkah provides overarching insights, the Project Manager is the custodian of identified challenges, and the on-site supervisor contributes invaluable practical considerations.

#### **2. Observations**

According to Abdullah and Saebani (2014), observation is a data collection technique that involves directly observing the field regarding the problems discussed in the research. The observation in this research is passive participant observation: the researcher observes but is not involved in the activity (Abdullah, 2014). Observations were carried out to see the production flow by PT. Kreasindo Blessing House. Researchers went directly to the field accompanied by the project manager to see the production flow from the start of production to the end of the project completion. This observation aims to understand better how the process takes place, identify potential waste, and evaluate operational performance directly.

#### **3. Secondary data**

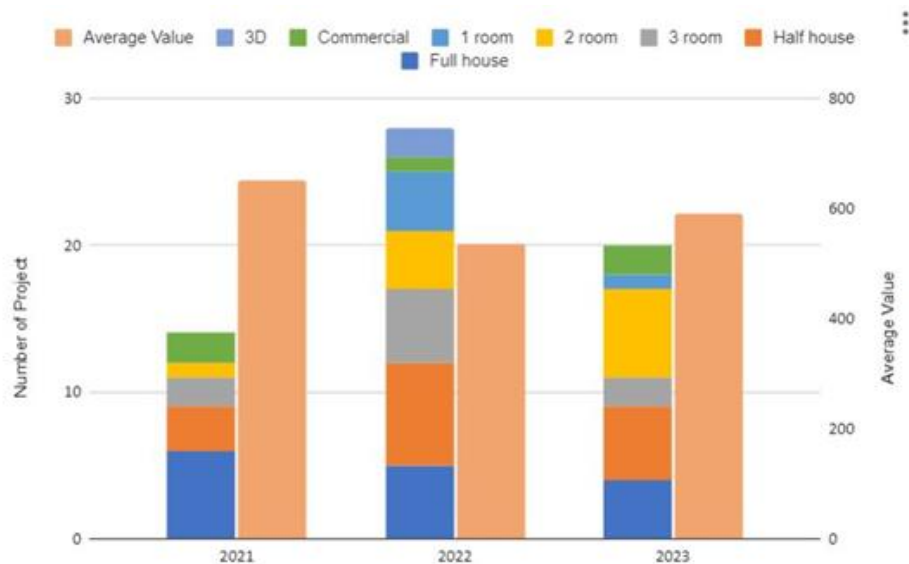
Sugiyono (2018) states that secondary data is a source that does not directly provide data to collectors. Secondary data in this study were obtained from reference books, research journals, the internet, and historical company performance data. Using past performance data, a corporation can make decisions based on information that helps project managers make iterations and continuously improve project planning and execution.

As Moser and Korstjens (2018) describe, "Data analysis aims to uncover embedded information and develop interpretations of personal experiences and social worlds". Several methods can help the researcher improve the efficiency of the supply chain at PT Rumah Kreasindo Berkah. In general, the researcher will examine using Six Sigma with one of the tools, DMAIC, by regularly applying the DMAIC method, PT. Rumah Kreasindo Berkah can improve efficiency, reduce uncertainty, and increase quality in its interior design production process.

### **Results and Discussion**

After implementing data collection methods, which involved collecting historical data, observations, and interviews with high-ranking officials at PT. Rumah Kreasindo Berkah, this chapter will discuss the findings and analysis resulting from the data collected. These results provide an essential basis for understanding challenges, opportunities, and recommendations to optimise operational efficiency in interior design production (Frank et al., 2019). In this stage, the research adopted a systematic approach using the DMAIC (Define, Measure, Analyse, Improve, Control) method to thoroughly analyse the challenges and opportunities faced by PT. Rumah





**Figure 1 Growth Trend**

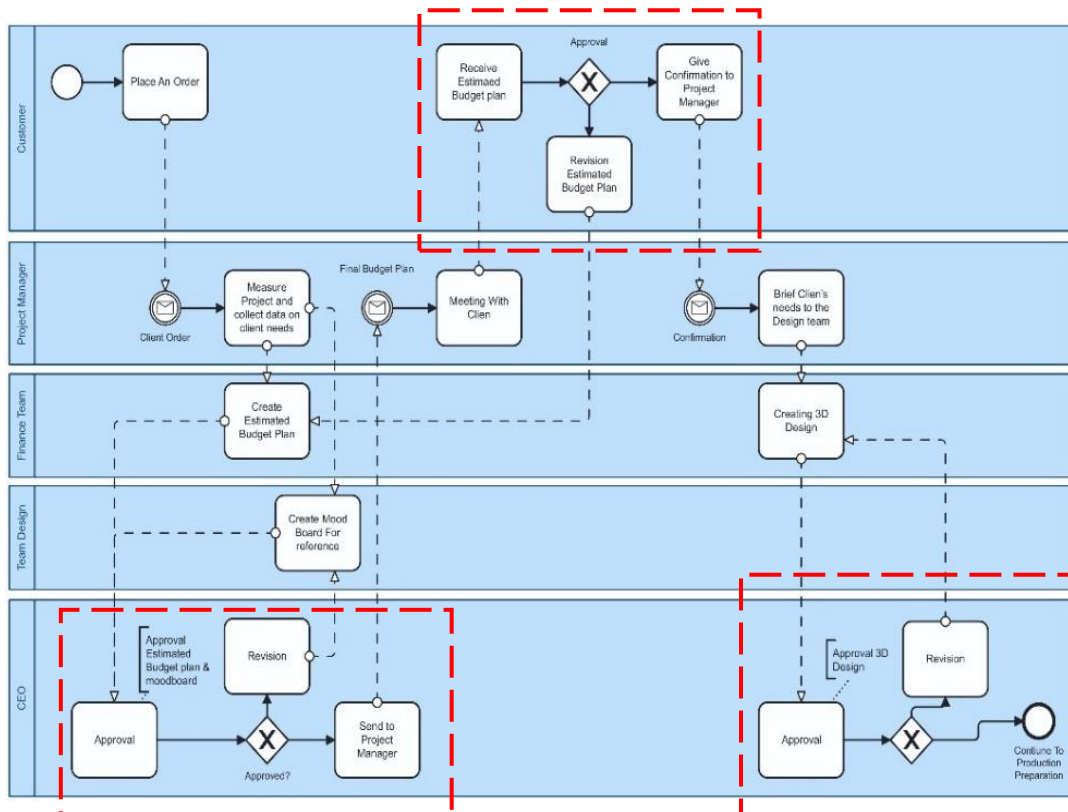
From the figure 1 PT. Rumah Kreasindo Berkah is currently experiencing a growth trend in the number of projects, with the number of projects for 2022 being the highest. Notably, there has been a shift in the project composition, with a higher prevalence of small projects compared to previous years when there were more full-house projects. Figure 4 illustrates this trend, highlighting a lower average value in 2022, primarily attributed to the distribution of smaller projects. This is different from 2021, which has fewer numbers but a more excellent average value because there are more full-house projects that year.

### **3 Analyse Phase**

The analysis phase became the primary focus for understanding the critical aspects that influence operational efficiency in PT's interior design production process. Kreasindo Blessing House . (Compagnucci, Corradini, Fornari, Re, & Tiezzi, 2021)Discusses investigative analysis to pinpoint causes of declining process efficiency by mapping current states, establishing metrics, verifying relationship significance, and narrowing vital factors. By following this methodical process, the study will investigate insights obtained through observational assessments and interviews, employ the DMAIC framework for data analysis, and lead readers to a more profound understanding of the company's difficulties and the potential avenues for improvement that can be discerned. Initially, the researcher performs an analysis using Business Process Modeling.

### **4 Business Process**

Apart from knowing which projects are experiencing significant delays, the author also needs to analyse the business processes at PT. Kreasindo Blessing House. Knowing which phases/parts often have the most significant potential for delays is necessary. The business processes carried out at PT. Kreasindo Blessing House. The business process starts with a customer request and ends with quality control and handover. Here is the actual flow of business processes that occurs in PT. Kreasindo Blessing House.



**Figure 2 Swimlane Preparation Phase**

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Figure 4 shows the production flow in the first phase of PT. Rumah Kreasindo Berkah's entire business process and assigned responsibilities are depicted. Several phases in the figure have been identified, with potential delays, as highlighted by insights from interviews with project managers and supervisors. In the initial phase, three approvals are required to proceed with the process. According to the results of interviews conducted with supervisors, one of the frequent causes of delays is the time required for approval. The following process is production preparation. The production preparation process will begin after the CEO approves the 3D design in this phase. The process will be depicted in the swimlane diagram below.

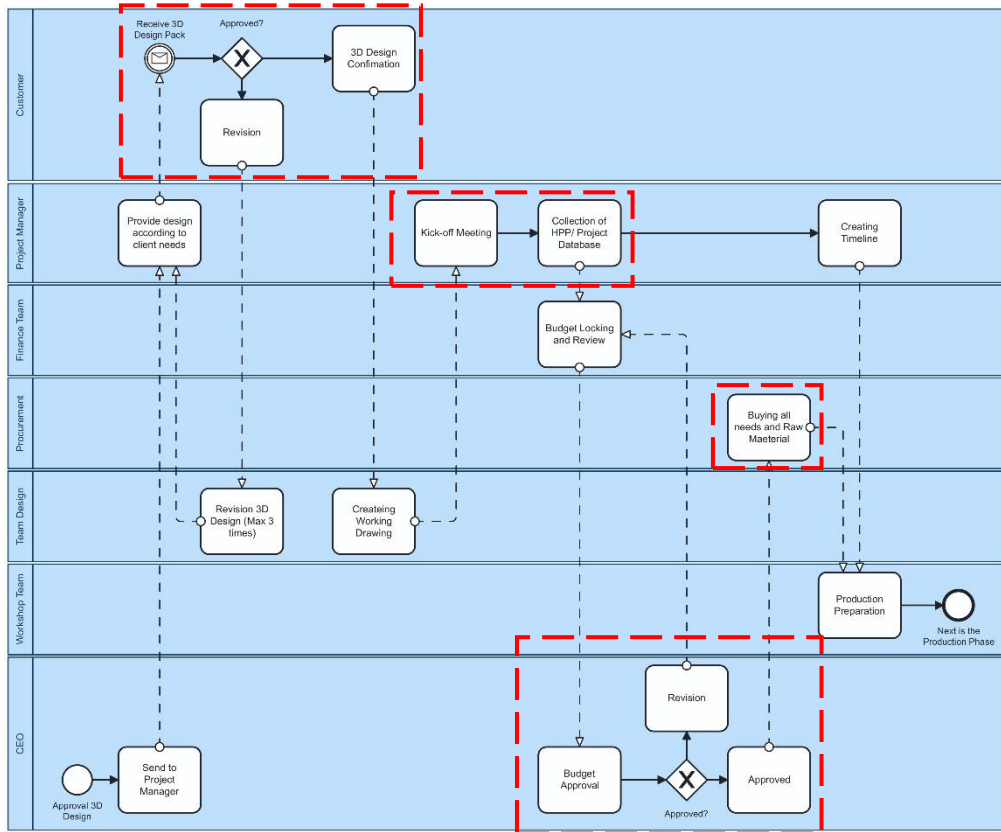


Figure 3 Swimlane Diagram Production Preparation

In the production preparation phase, potential delays may occur when clients request revisions, requiring additional approval. Moreover, observations at PT. Rumah Kreasindo Berkah's office reveals common delays in data collection after kick-off meetings. The workshop, design, and finishing teams are tasked with compiling a list of project items within a 3-day deadline. However, field realities often include delays in collecting this list, hindering raw material procurement and potentially delaying the start of production. The subsequent phase is the production process conducted in the workshop area. Two teams, the wood workshop team and the finishing workshop team, jointly operate in the same workshop space to minimise the time required for goods movement.

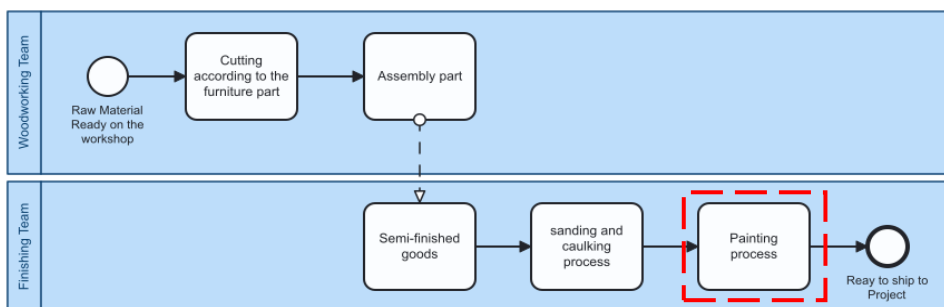
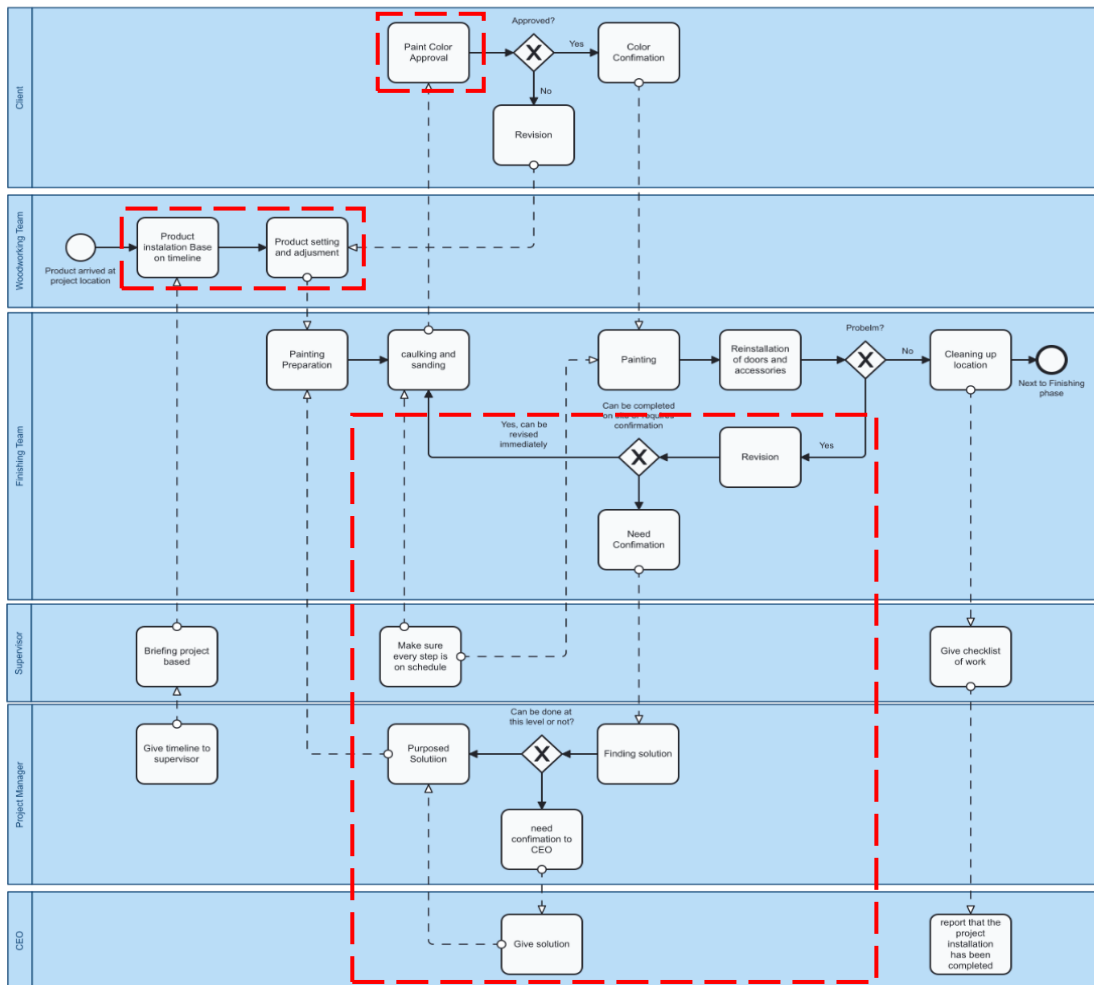


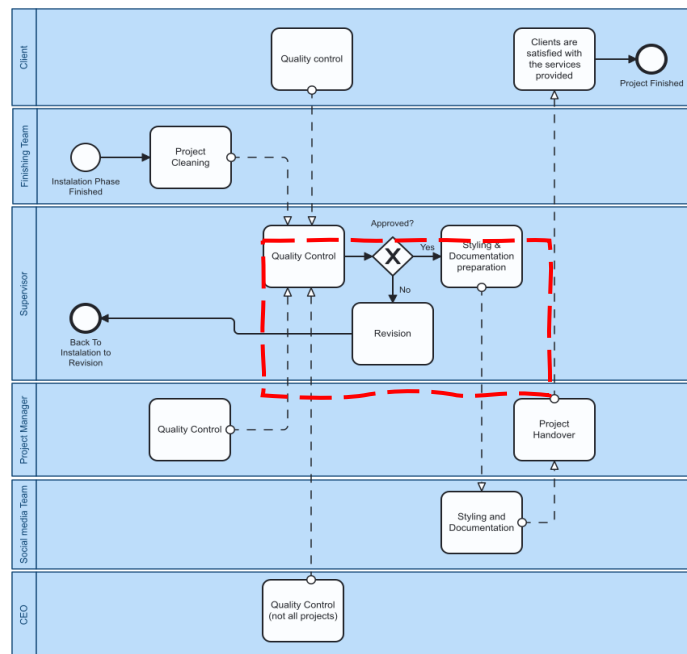
Figure 4 Swimlane Production

The subsequent phase is the project installation process, as highlighted in interviews with the CEO and Project Manager, frequently plagued by prolonged delays. These delays are particularly noticeable to clients at the project location, potentially leading to declining customer satisfaction. The installation process is elucidated in the swimlane diagram below.



**Figure 5 Swimlane Installation Phase**

During the installation phase, numerous areas pose a potential for errors leading to delays. For example, errors during on-site goods installation may necessitate on-site repairs, extending work time due to measurement inaccuracies. Colour confirmation can also be problematic, potentially causing delays if client approval is delayed. Interviews with on-site supervisors reveal that problem resolution at the location often experiences prolonged delays, especially for significant issues that may require approval from the CEO or the client. Next is the last stage of the business process that occurs in the PT. Rumah Kreasindo Berkah, the finishing stage, is shown in Figure 6.



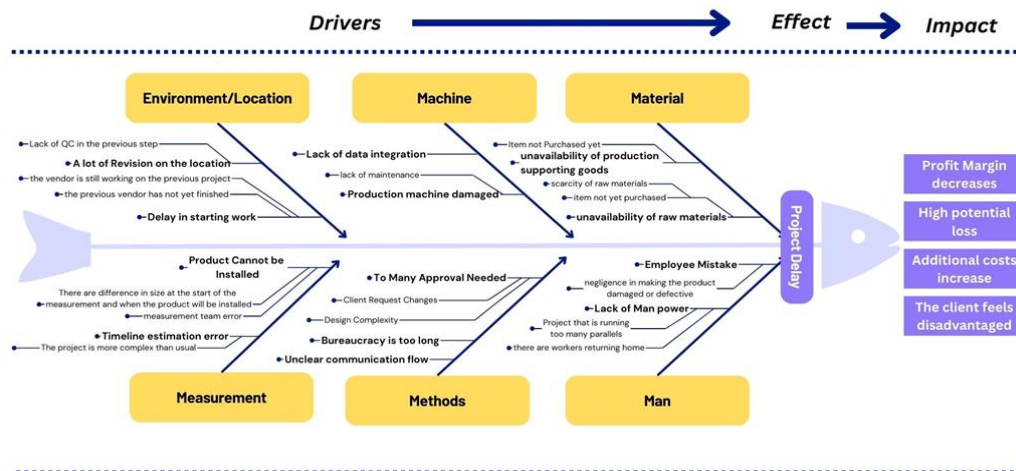
**Figure 6 Swimlane Finishing Phase**

In the last phase, a step could still be delayed. If a defect does not pass the quality check, a revision will take time. Of all the phases that have passed, many potential problems could cause delays, and these need to be corrected immediately. The following is a summary of problems in PT's business processes. Kreasindo House of Blessings:

**Table 2 Project Delay Percentage**

Phase	Potential Problems
Preparation	There are too many approvals and long-time responses.
Production Preparation	The client asks for revisions many times
Production Preparation	The production team and the finishing team were late in providing reports and a list of project requirements due to too many parallel projects
Production Preparation	budget approval takes a long time because the CEO is busy
Production Preparation	Unavailability of goods and scarcity of raw materials
Production	Unavailability of production-supporting goods
Production	The colour selection is still changing
Installation	Measurement errors requiring changes in location
Installation	Revision if an error occurs, which requires a long process and approval
Finishing	Found a defect during QC, so a revision had to be carried out
Finishing	Complementary goods are unavailable, so the project cannot be handed over.

## 5 Ishikawa Diagram



**Figure 7 Fishbone Analysis**

The second tool used in this research is the Ishikawa Diagram, also known as the Fishbone Diagram. It gets its name from its form, which is the shape of the skeleton of a fish. It was devised by Professor Kaoru Ishikawa, who pioneered the quality management process in the Kawasaki Shipyards in the 1960s (Septiawan & Becti, 2016). In this chapter, Fishbone analysis becomes an exploratory focus to outline the main factors contributing to operational efficiency in PT's interior design production process. Kreasindo Blessing House . This chapter will analyze the causes of the delay in more depth, which will later become material for improvising plans.

After knowing the most crucial problems, the company can sort them from the most influential to the least influential. Next, the company needs to find the best solution that can be applied appropriately. The author can find the PT from the problem analysis process using business process modelling to identify the problem area and fishbone analysis to categorize and validate the emerging problem by understanding the root cause of project delays at PT. Rumah Kreasindo Berkah, such as time-consuming approvals, lengthy bureaucracy, unclear communication flows, and so on, the company can find out what causes the decreasing profit margins, significant potential risks of loss, unpredictable additional costs, and low service quality to clients in terms of timeline. The company needs to improve it to avoid more significant effects; there are several ways to fix it, such as designing new business processes based on the analysis carried out in the business process. Pay attention to reducing unnecessary steps, identifying areas that need automation, and restructuring workflows to be more efficient.

## 6 Improve Phase

Based on the analysis findings, potential solutions have been identified to address the identified problems effectively. The researcher will employ a solution selection matrix based on fishbone analysis, offering solutions for each problem and aiming for the new business process based on the proposed solution. (Mundra & Mishra, 2023)describes the Solution Selection Matrix as an analytical tool that enables teams to propose and rank solutions for root causes, considering risk-benefit tradeoffs, resource utilization, and solution maturity criteria.

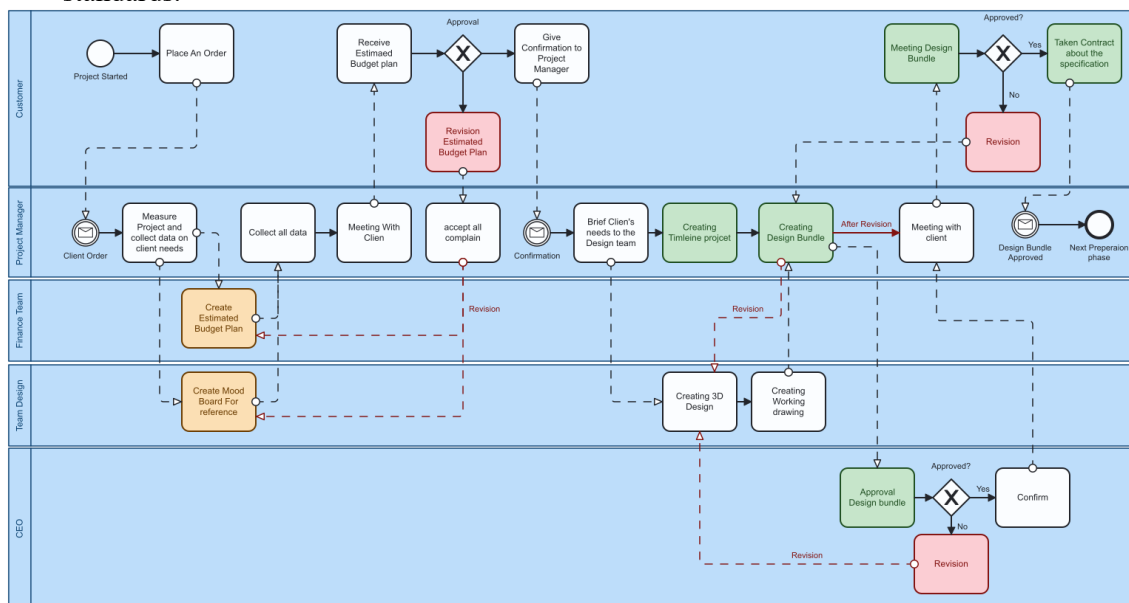
The Solution Selection Matrix results indicate several implementable solutions to improve the flow of business processes at PT. Kreasindo Blessing House . The project manager's input, collected through a Google form, was crucial in prioritizing these solutions based on the existing situation. The selection process involves evaluating each solution's effectiveness, feasibility, and cost-benefit rating. Here is a summary of some recommended solutions to address project delays.

**Table 3. Purposed Solution**

**No Solutions**

- 1 Adopt cloud-based data platforms that offer centralized storage and easy accessibility
- 2 Implement a quality assurance process for all products before the installation phase. This involves checking for defects, damages, or any discrepancies that may hinder the installation process
- 3 Ensure that product specifications and location measurements are detailed and accurate in the project documentation
- 4 Determine one project leader as the person whom the client can contact.
- 5 Implement a system to monitor the availability of critical products.
- 6 Ensure that the client's specifications, criteria, and expectations regarding the design are precise and agreed upon before the project begins
- 7 Conduct a thorough analysis of existing bureaucratic processes
- 8 Save a buffer stock of essential products (products that are frequently used)
- 9 Plan the project schedule carefully and avoid stacking too many projects at once.
- 10 Conduct intensive and proactive coordination with the project owner or party responsible for site readiness.

A new business process will be devised to enhance the business process flow in alignment with the previous analysis. Initiating with a preparatory phase, this process begins when the client contacts the company and concludes with the 3D design stage. To accelerate the process, several changes involve the consolidation of multiple processes. The CEO approval process, initially occurring twice, is now streamlined to once, coinciding with the completion of the 3D design and the Project Manager bundling the design. Accompanying this, adjustments ensure that the design and finance teams adhere to predefined guidelines for creating budget plan estimates and mood board styles by PT. Rumah Kreasindo Berkah standards.

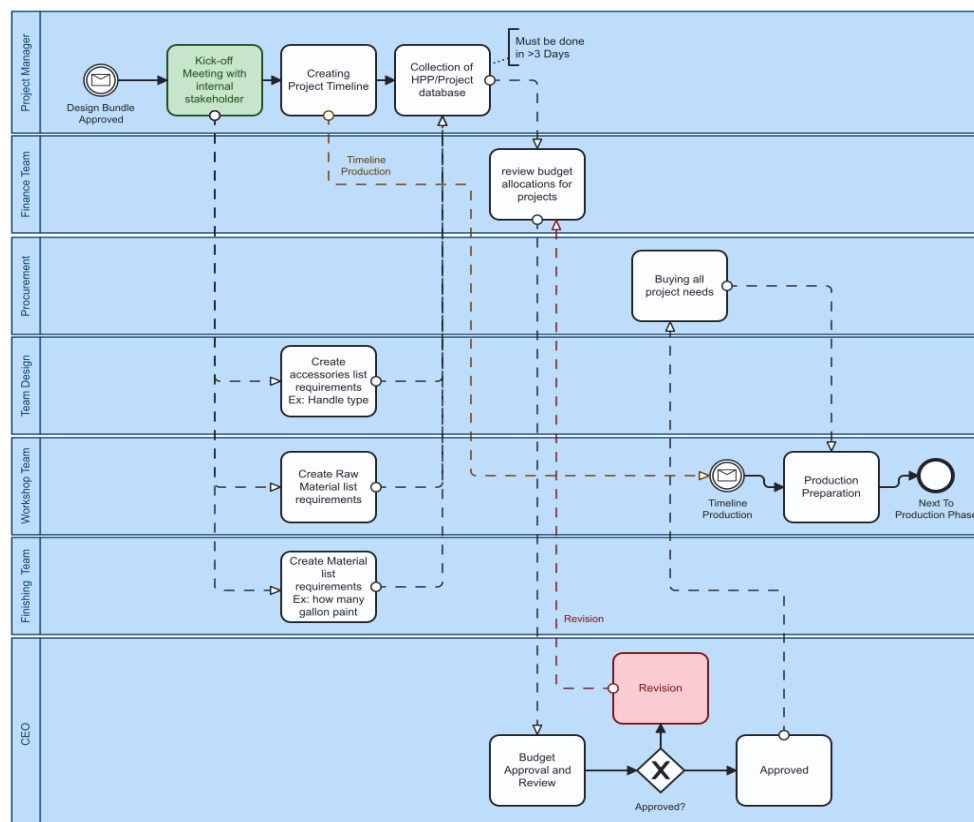


**Figure 8 Purpose Preparation Process**

In Figure 8, the swimlane diagram, activities highlighted in yellow require adjustments to existing business processes. To minimize reliance on CEO confirmation, the finance and design divisions must adhere to predefined standards, eliminating the need for frequent approvals. In the proposed process, timeline creation occurs at the design's initiation, facilitating the parallelization of tasks and enhancing project transparency for clients.

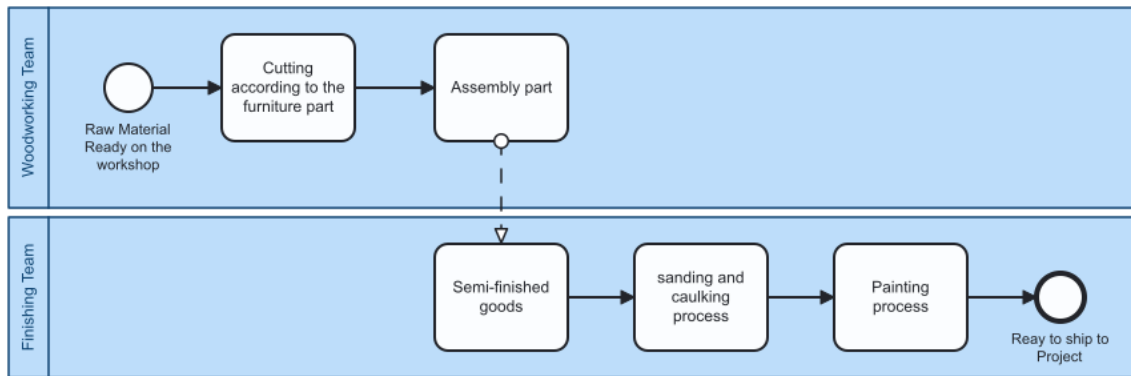
To mitigate delays caused by excessive approvals in the production and installation phases, all design specifications, including colour, size, accessories, etc., are approved at the project's outset. Creating a design bundle ensures comprehensive visualization and specification representation, including the client's contract signature, indicating agreement with the specified project details. Figure 8 illustrates the proposed new process highlighted in green, enabling clients to articulate changes to design, colours, and accessories while the project is ongoing. Given that production and installation are in progress, modifications to specifications at this stage may result in additional costs due to completed goods purchases.

The production preparation process will be significantly streamlined in the subsequent phase as all client approvals were obtained at the project's outcome. Consequently, all determinations of the list of requirements align with the specifications outlined in the design bundle. Figure 8 illustrates the simplified flow of the production preparation process. However, before the procurement team completes all purchases, a final check by the CEO is still necessary to ensure there are no excessive acquisitions.



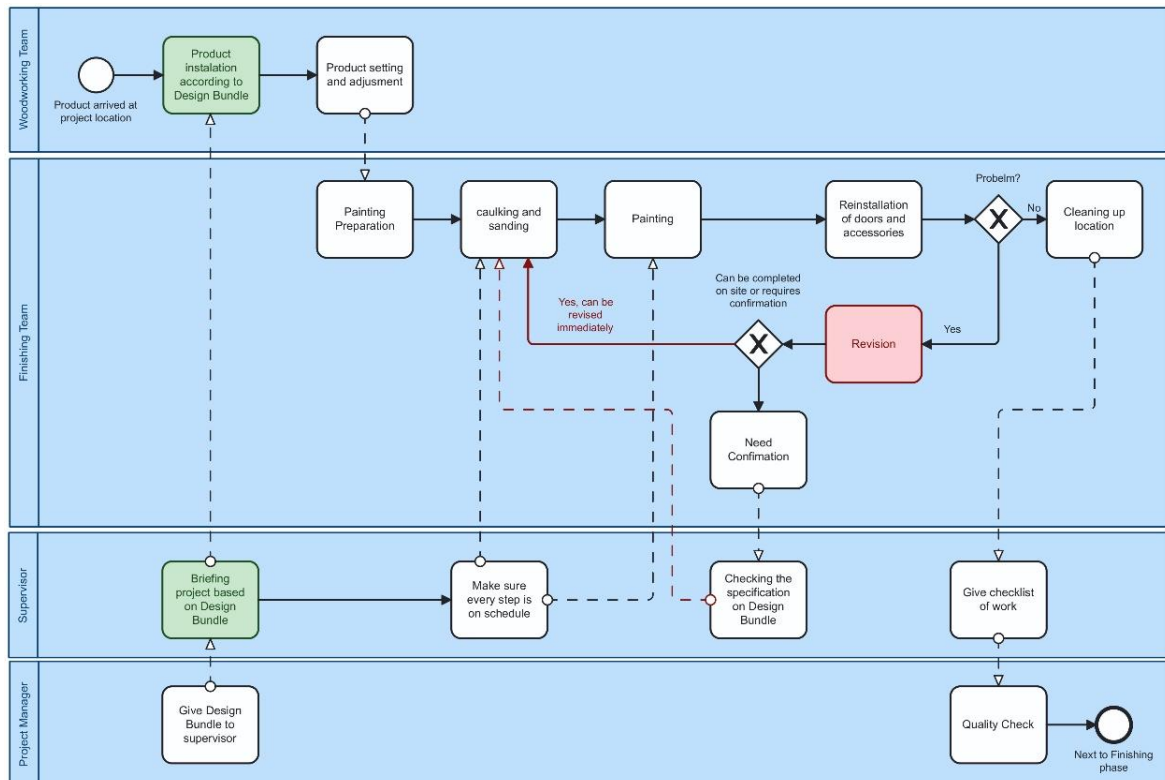
**Figure 9 Purposed Production Preparation Procces**

After all purchases are completed, raw materials will be directly sent to the workshop by the vendor, while supporting goods undergo initial inspection in the warehouse for completeness and quality. Additionally, the design, workshop, and finishing teams are assigned the task of compiling a project's required goods list within a 3-day timeframe. With the conclusion of the production preparation phase, the business process seamlessly transitions to the production phase.



**Figure 10 Purposed Production Process**

In the production process, there are no changes to the workflow as it is effective with minimal delays. The early approval of material, colour, and accessory specifications allows for a smooth and obstacle-free execution (Wilson et al., 2021). This positively impacts the workshop's efficiency, enabling increased monthly goods production. Attention should be given to consistently monitoring the availability of essential goods to prevent material shortages. Moving to the installation process at the project site, observations and interviews at PT. Rumah Kreasindo Berkah indicates that this phase frequently encounters delays.



**Figure 11 Purposed Installation Process**

In Figure 11, the following flow for the installation process will be explained. The project manager delegates his responsibilities to the supervisor. However, he has to control the project periodically to ensure everything follows the guidelines. Following the completion of installation, the project manager must conduct a quality check with the supervisor before proceeding to a quality check with the client and CEO (Meredith et al., 2017). Once the quality check is finalized, the process seamlessly transitions to the finishing phase (Serban & Marinescu, 2013). In this final phase, minimal process changes are

anticipated as the preceding quality control phase aims to minimize revisions. This ensures a smooth execution, contributing to the project's timely completion.

## 7 Control Phase

In this control phase, the main objective is to monitor, measure, and validate the implementation of the solution to ensure that the proposed changes can be adopted successfully in PT. Rumah Kreasindo Berkah (Rifqi, Zamma, Souda, & Hansali, 2021). Therefore, there is a need to adjust KPIs and SOPs to support new business processes. This is to maintain the implementation plan, keep it on track, and fix the problems in the company. With this solution, companies can avoid delays, such as reduced project margins, high potential losses, and additional costs arising from these delays (Alsharif et al., 2021).

## Conclusion

From the analysis results, it can be concluded that the interior design production process at PT. Rumah Kreasindo Berkah faces significant challenges. These challenges, including project delays, declining profit margins, and potential lost opportunities, contribute to reduced profitability and competitiveness. By gaining a deeper understanding of these issues, PT. Rumah Kreasindo Berkah can implement targeted solutions to improve operational efficiency. Therefore, investing in practical solutions tailored to address the identified challenges is crucial for PT. Rumah Kreasindo Berkah to achieve long-term success and sustain its competitive edge.

Through this research, researchers identified the root cause of the delays at PT. Kreasindo Blessing. The main contributors to project completion delays are critical factors such as project complexity, unclear communication flow, excessive approvals, lack of data integration, and inefficient resource allocation. To overcome these delays, proposed solutions include implementing a robust inventory management system, training supervisors and employees, optimising resource allocation, and streamlining production flows by changing production processes.

By employing the business process modelling method, the company can identify steps that may lead to delays and determine the individual responsible for each step. This facilitates a more straightforward approach to enhancing the production flow or addressing issues with the specific responsible party. Additionally, the researcher can delve into the root causes of the problems identified in the preceding business process analysis through fishbone analysis. Understanding these root causes simplifies devising effective solutions for the identified issues.

Several steps can be taken as proposed solutions to address the identified problems. First, ensure precise and agreed-upon client specifications, criteria, and expectations before commencing the project. Second, ensure detailed and accurate product specifications and site measurements in project documentation. Third, adopt a cloud-based data platform for practical storage and easy accessibility. Fourth, implement a monitoring system for the availability of crucial products. These recommendations aim to provide managerial benefits, enhance operational efficiency, mitigate project risks, and increase client satisfaction. For future research, it is suggested to explore the impact of delays on customer satisfaction and conduct more in-depth research on bureaucratic flows aligned with company characteristics. By implementing these solutions, PT. Rumah Kreasindo Berkah aims to optimise operational efficiency, reduce project delays, and enhance productivity. These steps align with the company's strategic objectives, focusing on increasing efficiency, mitigating project risks, and enhancing competitiveness in the interior design industry.

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