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Product Development of a Digital Platform for Integrated E-Procurement of Customized Component Parts Solution, "Eproccos"

Arie Albertus, Meyriana Susan¹, Hamdani Hamdani¹, Adhi Setyo Santoso¹

¹ President University

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Abstract

An integrated application that facilitates supply and demand is highly beneficial for companies, as it simplifies the process of finding products. Eproccos has developed a concept for a digital platform that connects buyers in need of customized parts with suppliers who can provide them, or vice versa. The objective is to bring digital transformation to the customized components industry by replacing traditional methods with digital platform solutions.

Eproccos' market entry and approach strategy involve initially attracting as many suppliers or workshops as possible. Subsequently, the company aims to acquire potential customers and encourage them to conduct business through Eproccos. Over the first five years, the business projects a significant increase in traction. Financial analysis indicates that this venture is profitable, with a return on investment expected within three years. Based on its strong financial performance, Eproccos represents a sound investment opportunity.

Keywords: Product Development; e-Procurement; Industry 4.0; Digital Platform; Startup.

1. Introduction

Industry 4.0 is a comprehensive approach that impacts all business processes, distinguishing it from previous industrial revolutions that primarily focused on production processes and had significant effects at the shop floor level (Schuh, Potente, Wesch-Potente, Weber, & Prote, 2014). It enables the integration of individual, customer-specific criteria throughout the design, configuration, ordering, planning, manufacturing, and operation phases.

In the current era of digitalization, the rapid development of digital technology necessitates changes in the behavior of the business world (Schallmo & Tidd, 2021). The government has declared its ambition for Indonesia to become the leading digital economy, capable of supporting national economic growth (Jurriens & Tapsell, 2017). One of the government's objectives is to increase e-commerce transactions through digital economy platforms.

As a result, companies require an integrated application to facilitate supply and demand and simplify the search for products, particularly spare parts and supporting components. Such an application serves as a central source, making it easier for customers to find multiple suppliers who can fulfill their needs. The aim of this business is to establish an ecosystem where customers and suppliers can connect their demands and supplies (Langerak, 2001). The more demand is available and the more supply is provided, the more interactive and competitive this ecosystem will become for its users.

1.1. Problems and Current Journey Map

Based on the identified issues and problems, as well as the results of interviews conducted with prospective suppliers (eight customers) and customers (two customers), several conclusions can be drawn:

1. Both suppliers and customers are encountering limitations in terms of sourcing customized products. The current coverage is insufficient to meet their needs effectively.
2. There is a lack of customers for both supplier SP1 and SP2, primarily due to their reliance on conventional marketing methods. Insufficient marketing activities have resulted in limited customer acquisition, with referrals from existing customers being the primary source of new business.
3. The lead-time for product delivery is not consistent or fixed, which can cause delays and uncertainty in meeting customer demands.
4. The machines' capacity is not optimized, resulting in suboptimal performance and potentially affecting the quality and efficiency of production processes.
5. The pricing strategy employed is not competitive, leading to higher costs and a reduced ability to compete effectively in the market.

These identified problems highlight areas that require attention and improvement in order to enhance the competitiveness and effectiveness of the business operations.

USER PROFILE	DEFINE	COMPARE	NEGOTIATE	SELECT
• The Practical RF	<ul style="list-style-type: none"> Get order for precision part, jig, or mold/stamping dies from existing customer or new customer preferred by end customer Checking 3D/2D drawing or sometimes need to visit customer to redraw if customer provide sample of part 		<ul style="list-style-type: none"> Do costing using sequencing process cost and send the quotation to customer 	<ul style="list-style-type: none"> Quotation confirmed by customer and get official purchase order from customer and start to produce the part
• The Extrovert PH	<ul style="list-style-type: none"> Customer come to the workshop to order some parts or get order from existing customer Checking 2D drawing or sometimes need to redraw for customer 		<ul style="list-style-type: none"> Do the costing to provide the best price, inquiry code, and estimated lead time to customer 	<ul style="list-style-type: none"> Start working if customer confirm and back with official order
• The Curious SB	<ul style="list-style-type: none"> The needs to order customized part for machine, if order from original factory, it will be costly Prepare 2D drawing to submit to potential supplier/workshop 	<ul style="list-style-type: none"> Contact existing supplier and submit 2D drawing to get quotation, at least 3 suppliers Check for new supplier from internet if existing suppliers can't provide the part 	<ul style="list-style-type: none"> Contact or call the potential suppliers to get the best price and lead time one by one 	<ul style="list-style-type: none"> Choose the supplier can provide the part with required specification, competitive price and meet the required lead time
• The Meticulous IS	<ul style="list-style-type: none"> Looking for customized part for machine that currently produced prepare 2D drawing or sometimes taking picture then supplier will draw for him 	<ul style="list-style-type: none"> Checking overseas and local suppliers can do the job Follow up 3-4 suppliers to get quotation to compare. Short lead time - local supplier is preferable, lower price possibly get from overseas supplier 	<ul style="list-style-type: none"> Get the best price and short lead time from all potential supplier 	<ul style="list-style-type: none"> Select the one who can supply with the cost under budget and still meet the timeline

Table 1.3. Journey Maps for Suppliers and Customers

The user journey map can be defined by starting either from the customers who define their needs or from the suppliers who define the incoming orders. Typically, customers begin by comparing and negotiating with potential suppliers in order to secure the best possible offer before making a decision on which supplier to choose. On the supplier's side, they strive to provide the most appealing offer to customers and commence the job once the customer confirms and places an official order.

There are several potential opportunities, such as suppliers who still have the capacity to take on more work but don't know how to obtain more orders. Additionally, customers need to invest more time in individually following up with suppliers to fulfill their comparison requirements or they simply continue to offer business to existing suppliers without exploring new potential suppliers. There are difficulties in finding local suppliers with competitive pricing and prompt delivery times. Moreover, the traditional method of bidding for orders is inefficient, and customers are uncertain about the quality and capabilities of new suppliers. Considering these factors, we have formulated the purpose of this project to address the question of why it is needed.

2. Project Creation

The presence of demand and supply in the industrial sector necessitates the creation of a business that can establish an ecosystem connecting customer demand and supply (Rothschild, 2004). Expanding the market surface area involves introducing more suppliers through the participation of ecosystem members. This presents an opportunity for us to develop a business ecosystem concept that integrates customers and suppliers into a single digital platform. By adopting a Business-to-Business-to-Customer (B2B2C) business model and forming partnerships with other businesses, our concept aligns with our overall business strategy.

2.1. Product Concept

The presence of demand and supply in the industrial sector necessitates the creation of a business that can establish an ecosystem connecting customer demand and supply (Rothschild, 2004). We aim to develop a digital platform that serves as a comprehensive solution, allowing the incorporation of individual, customer-specific criteria throughout the design, configuration, ordering, planning, manufacturing, and operation phases. This platform has the potential to fulfill the unique needs of individual customers, enabling profitable production even for one-off items.

For a digital platform to be successful and impactful, it must fulfill two key functions. Firstly, it should facilitate the exchange of services and information and effectively bridge trade. Secondly, the platform should provide significant added value to the community, improving their standard of living and well-being. In the case of the digital platform developed by Eproccos, it takes the form of a website that contains information about customer requests for customized parts, which are then addressed by suppliers in response to customer inquiries. Furthermore, the platform includes a registration process for both customers and suppliers.

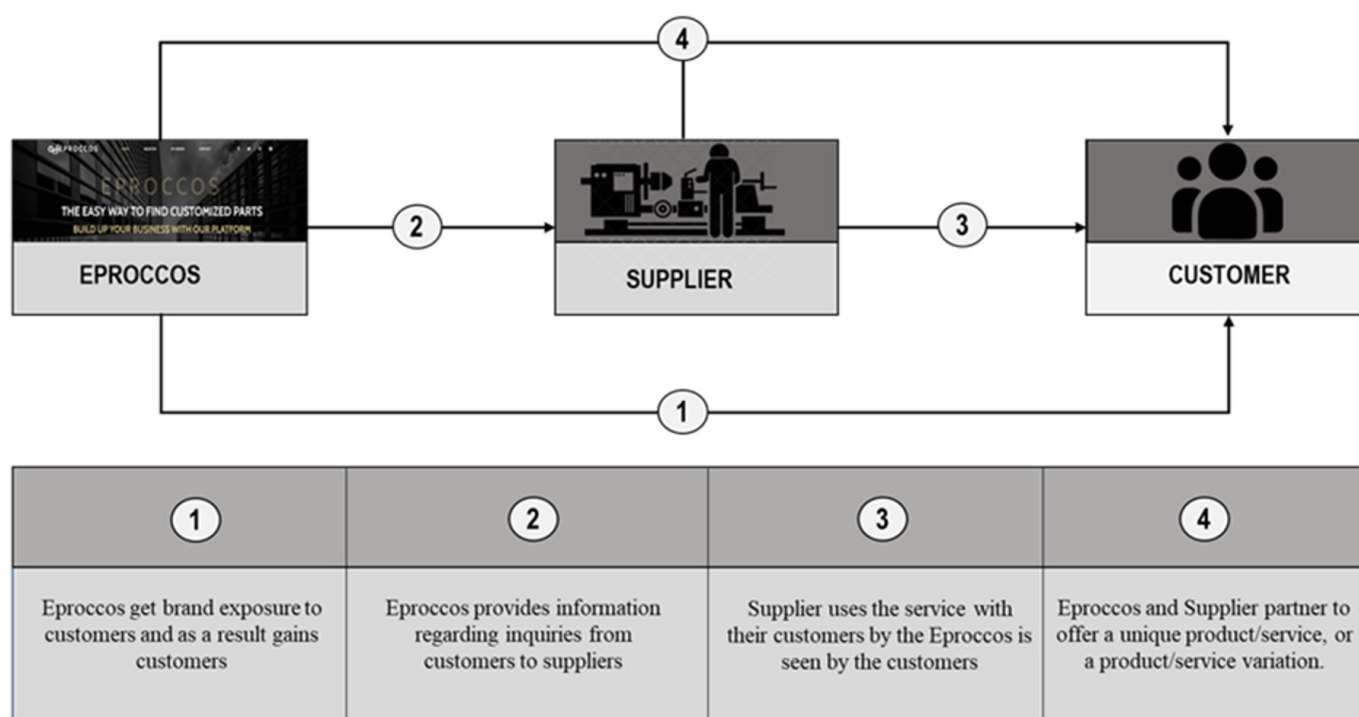


Figure 2.1. The Business to Business to Customer (B2B2C) Model of Eproccos

2.2. Product Features

The concept developed by Eproccos revolves around a digital platform that serves as a bridge between buyers in need of customized parts and suppliers who provide those parts, or vice versa. Suppliers also have the opportunity to act as buyers for customized parts items. The initial features of Eproccos include a registration page and My Order pages, which serve as the main components of this digital platform.

2.3. Unique Value Proposition

Eproccos offers a solution to consumers and suppliers seeking custom parts. Currently, there is no digital platform available that provides a forum where customers and suppliers can connect specifically for customized parts orders. Customers and suppliers rely solely on word-of-mouth recommendations or partnerships with known contacts to seek or place orders. This results in a limited scope for both customers and suppliers, confined to their existing network. Eproccos addresses this issue by utilizing the value proposition canvas, originally developed by Alexander Osterwalder.

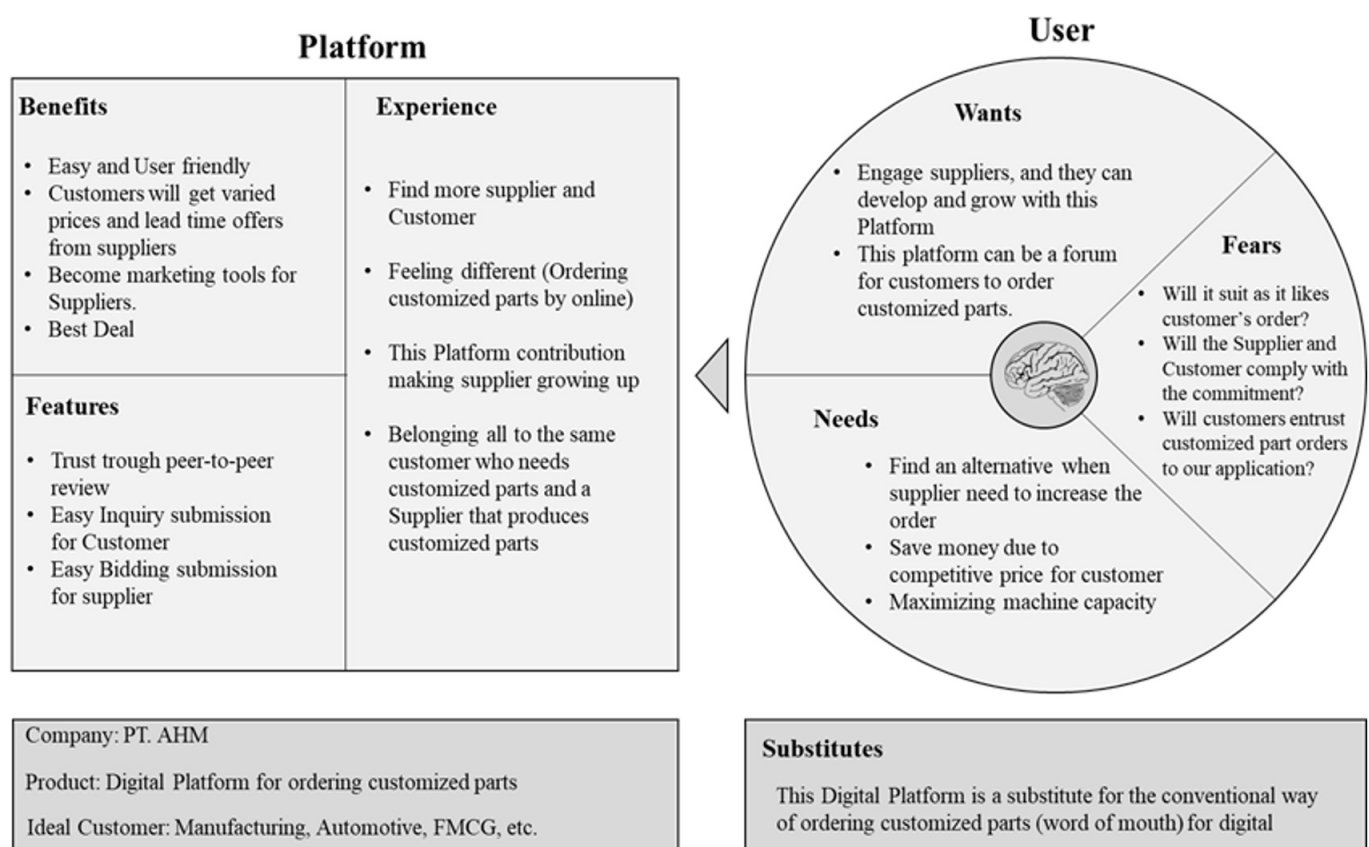


Figure 2.2. Value Proposition Canvas Applied EPROCCOS

3. Strategic Analysis

Design thinking is a human-centered approach to innovation that leverages the tools and techniques used by designers to

integrate people's needs, technological possibilities, and business requirements for success (Kelley & Brown, 2018). The concept of User Experience (UX) research involves studying and understanding the preferences of end users, and using that knowledge to inform the design process of products and services. By conducting UX research, we aim to identify and comprehend potential users, as well as gather valuable feedback for the development of our product.

When analyzing the design of a business, there are five key steps to follow.

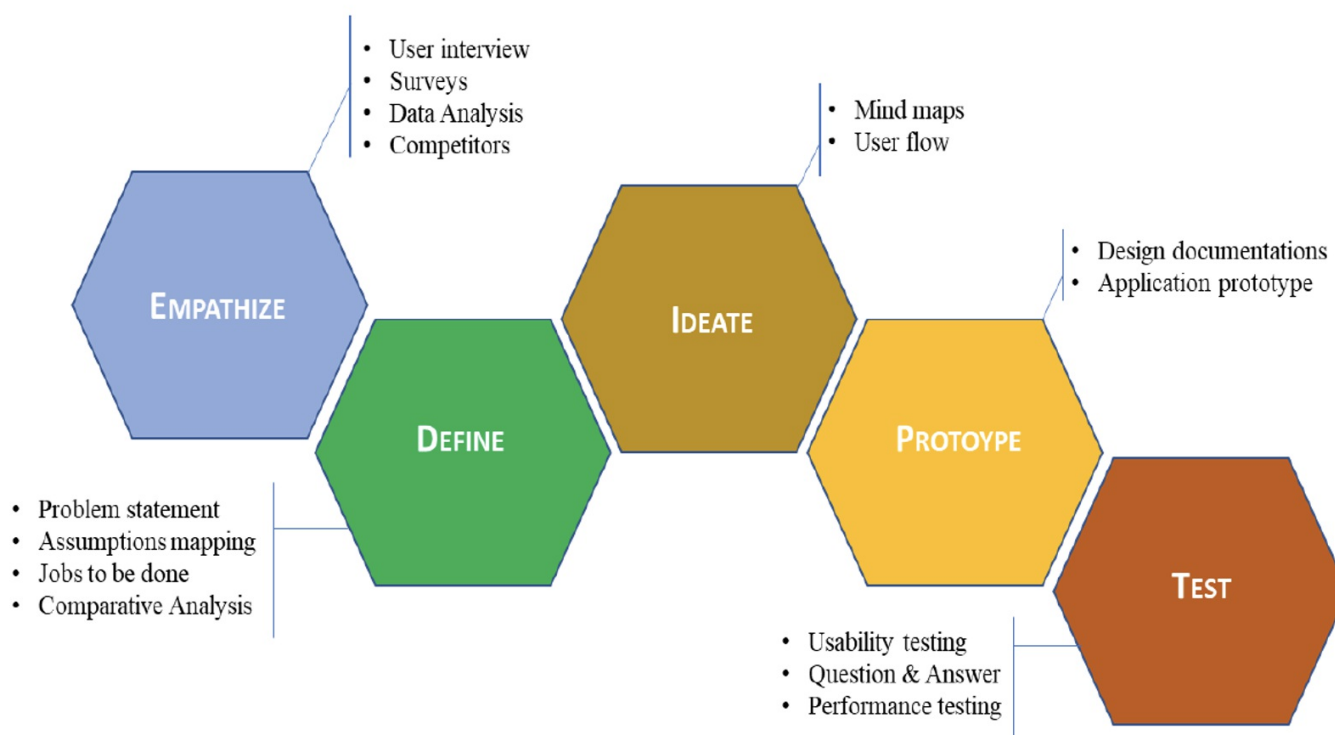


Figure 3.1. UX Research using the Design Thinking Approach

Eproccos believes that a business centered around the concept of digital applications focuses on online transactions and provides broader coverage compared to manual approaches used in conventional methods. Digital applications have become integrated into various human activities, especially for purchase transactions, making daily activities more convenient. To ensure a strong foundation for the business, Eproccos conducted research and gathered information from potential suppliers (eight) and customers (two) prior to its launch.

The digital platform for integrated e-procurement of customized components has been analyzed using the Strengths, Weaknesses, Opportunities, and Threats (SWOT) method. Based on this SWOT analysis, various strategies need to be considered in order to optimize the project's strengths and seize opportunities (S-O). Efforts are made to overcome weaknesses and convert them into opportunities (W-O). Similarly, the strengths of the project are utilized to mitigate potential obstacles or threats (S-T), while solutions are sought for weaknesses and threats that may arise (W-T).

3.1. Build: Creating a Minimum Viable Product (MVP)

The website serves as a representative depiction of the workflow, presenting multiple menus within the application for our main users—customers and suppliers. We have implemented several features to test our product. The Eproccos website aims to establish an ecosystem that connects customers and suppliers, facilitating the interaction and competitiveness of the platform as more demands and supplies are offered.

Our platform is integrated with an e-procurement system, providing customers with competitive pricing, high-quality products, and reliable lead times. We aim to empower businesses operating in workshops to optimize their market presence and revenue. Additionally, we strive to offer customers information to connect them with suppliers. Our slogan, "The easy way to find customized parts," reflects our commitment to enabling users to enhance their business growth and meet their expanding needs through our platform.

- Product Features

The initial features of Eproccos include a registration page and My Order pages, which serve as the primary components of this digital platform. A detailed explanation of these features will be provided in the following section. The user interface is intentionally kept simple to enhance user-friendliness (Wang & Marcus, 2019). When customers and suppliers register for the first time, they will be directed to the registration pages. Additionally, the My Order pages allow users to submit quotations and inquiries related to their orders.



Figure 3.2. The Business Flow of Eproccos

1. Customer Access

To access the Eproccos platform as a customer, individuals need to navigate to the registration page. This page provides instructions for customers to complete the registration process using a Google form. The form includes fields for creating an ID, providing company name, company address, telephone number, and filling in the NPWP (Tax Identification Number).

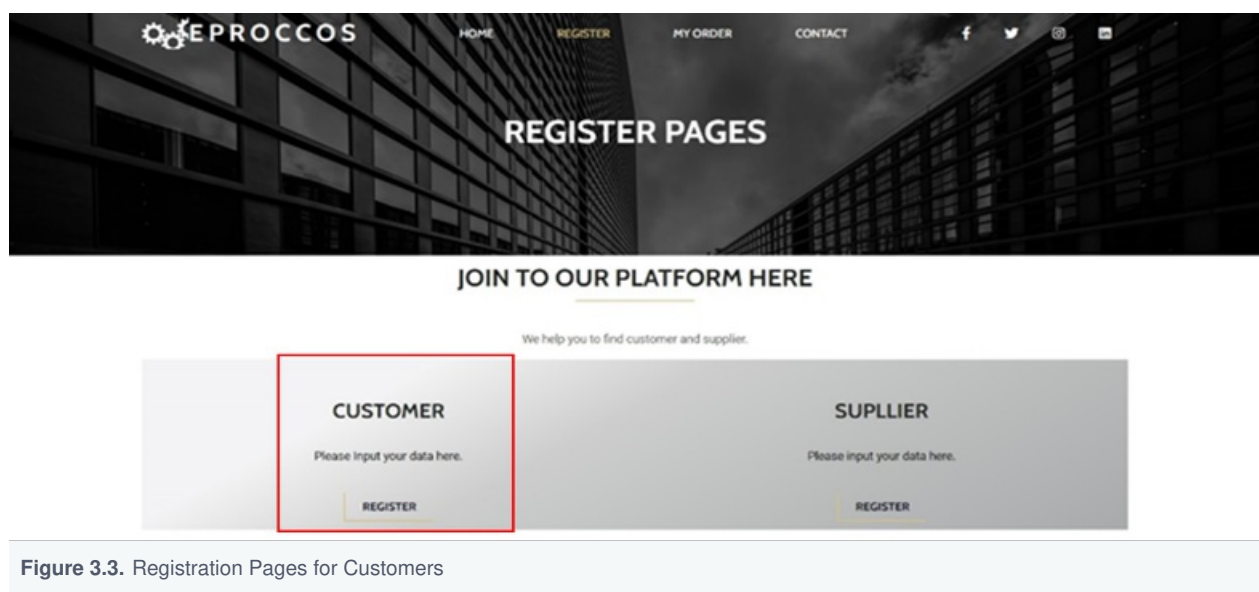
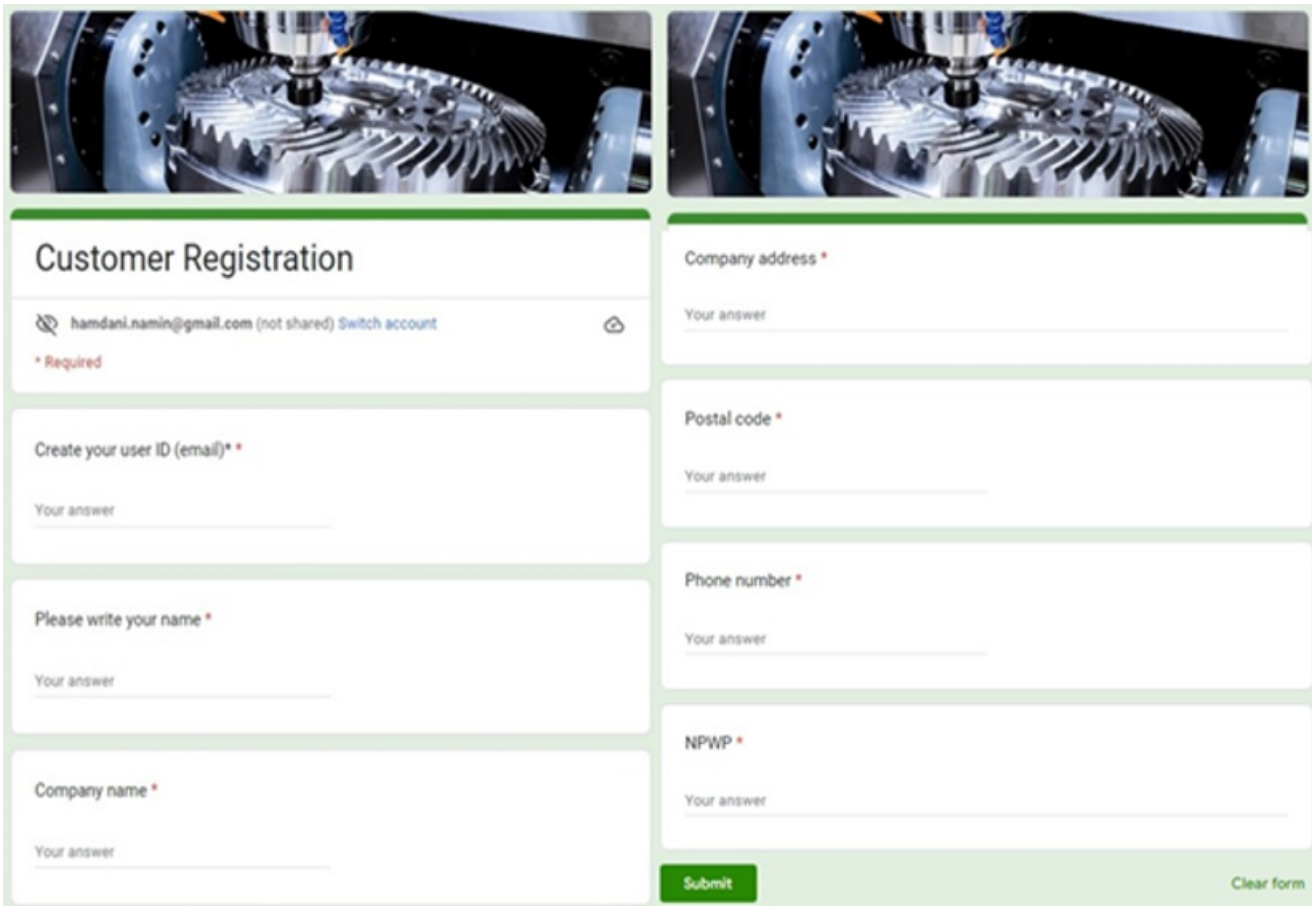


Figure 3.3. Registration Pages for Customers

To join the Eproccos platform, customers are required to provide several key details. The registration form consists of the following essential fields:

1. **Create User ID:** Customers need to create a unique User ID that will be used when submitting inquiries through Eproccos.
2. **Name:** Customers are required to provide their full name, which serves as their identity in the initial stage.
3. **Company Name:** This platform mandates customers to provide the name of their company, as it is crucial information for suppliers to be aware of.
4. **Company Address:** Customers need to provide the address where the products will be delivered.
5. **Telephone Number:** Customers should fill in a contactable telephone number.
6. **NPWP (Tax Identification Number):** This field is necessary for tax-related purposes and to verify the company's permits.

The registration form resembles the figure below:

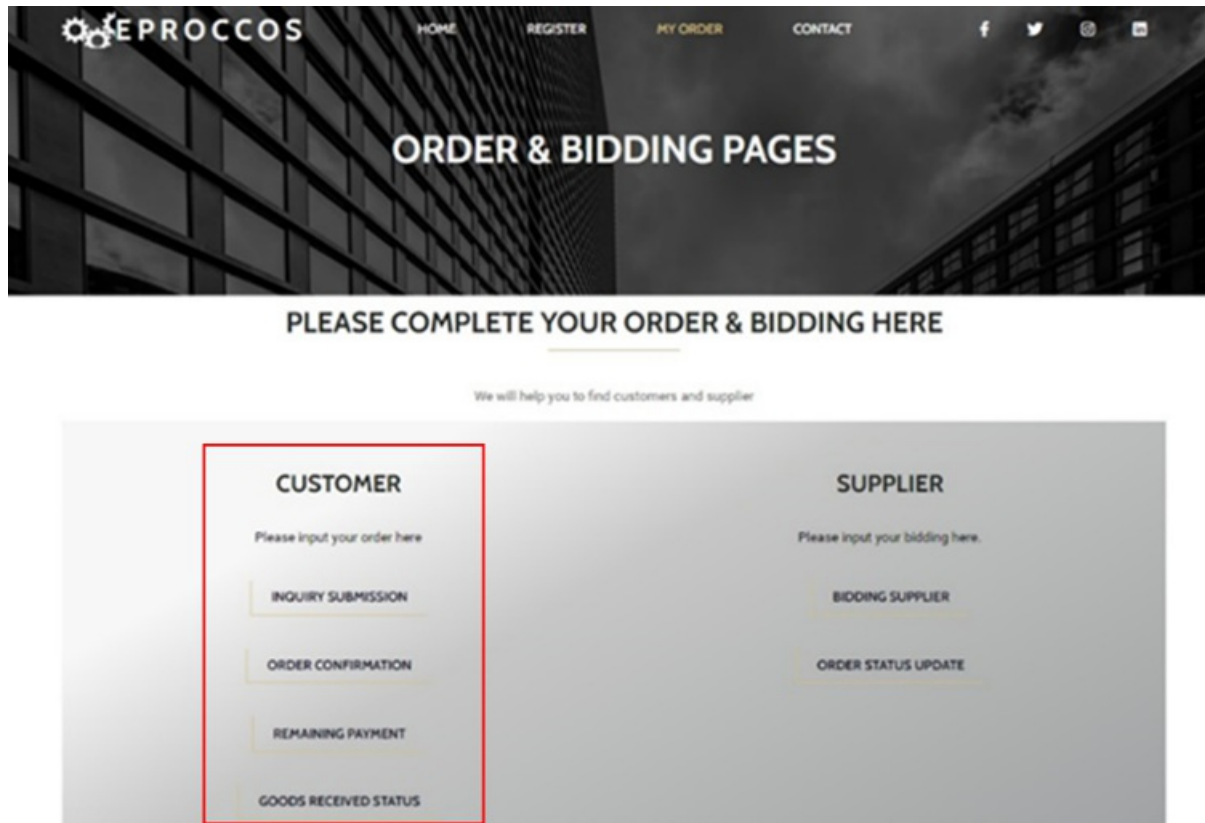


The image shows a web-based customer registration form. At the top, there are two identical images of a mechanical gear assembly. Below these, the form is titled "Customer Registration". It features a user profile section on the left with the email "hamdani.namin@gmail.com" and a "Switch account" link. The main form area is divided into two columns. The left column contains fields for "Create your user ID (email)", "Please write your name", and "Company name". The right column contains fields for "Company address", "Postal code", "Phone number", and "NPWP". Each field has a "Your answer" label and a text input area. At the bottom right, there are "Submit" and "Clear form" buttons.

Figure 3.4. Customer Registration Form

In addition to the Registration pages, the My Order pages (Figure 3.5) serve as a platform for customers to submit inquiries regarding their customized part orders. This page follows a sequence of steps on the customer's side, including inputting the order details, submitting the inquiry, making the remaining payment, and finally, updating the status of goods received.

Customers utilize the inquiry submission column (Figure 3.6) to submit their orders, providing information such as 3D or 2D images of the customized items they wish to order. It is best for the submitted pictures to accurately depict the size, dimensions, quantity, lead time, quality, and material specifications. The submission process still employs the use of a Google form, and the interface resembles the one shown below.



EPROCCOS HOME REGISTER MY ORDER CONTACT


ORDER & BIDDING PAGES

PLEASE COMPLETE YOUR ORDER & BIDDING HERE

We will help you to find customers and supplier

CUSTOMER	SUPPLIER
Please input your order here	Please input your bidding here.
INQUIRY SUBMISSION	BIDDING SUPPLIER
ORDER CONFIRMATION	ORDER STATUS UPDATE
REMAINING PAYMENT	
GOODS RECEIVED STATUS	

Figure 3.5. Customer Registration Form



Inquiry submission

hamdani.namin@gmail.com [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

* Required

User ID (email) *

Your answer

Insert your 2D/3D drawing *

[Add file](#)

Quantity *

Your answer

Description (if any)

Your answer

Type order *

☐ Die & Mold

☐ Die casting

☐ Industrial automation

☐ Other: _____

Price *

☐ High

☐ Moderate

☐ Other: _____

Quality *

☐ High Precision

☐ Precision

☐ Other: _____

Lead Time *

☐ Urgent

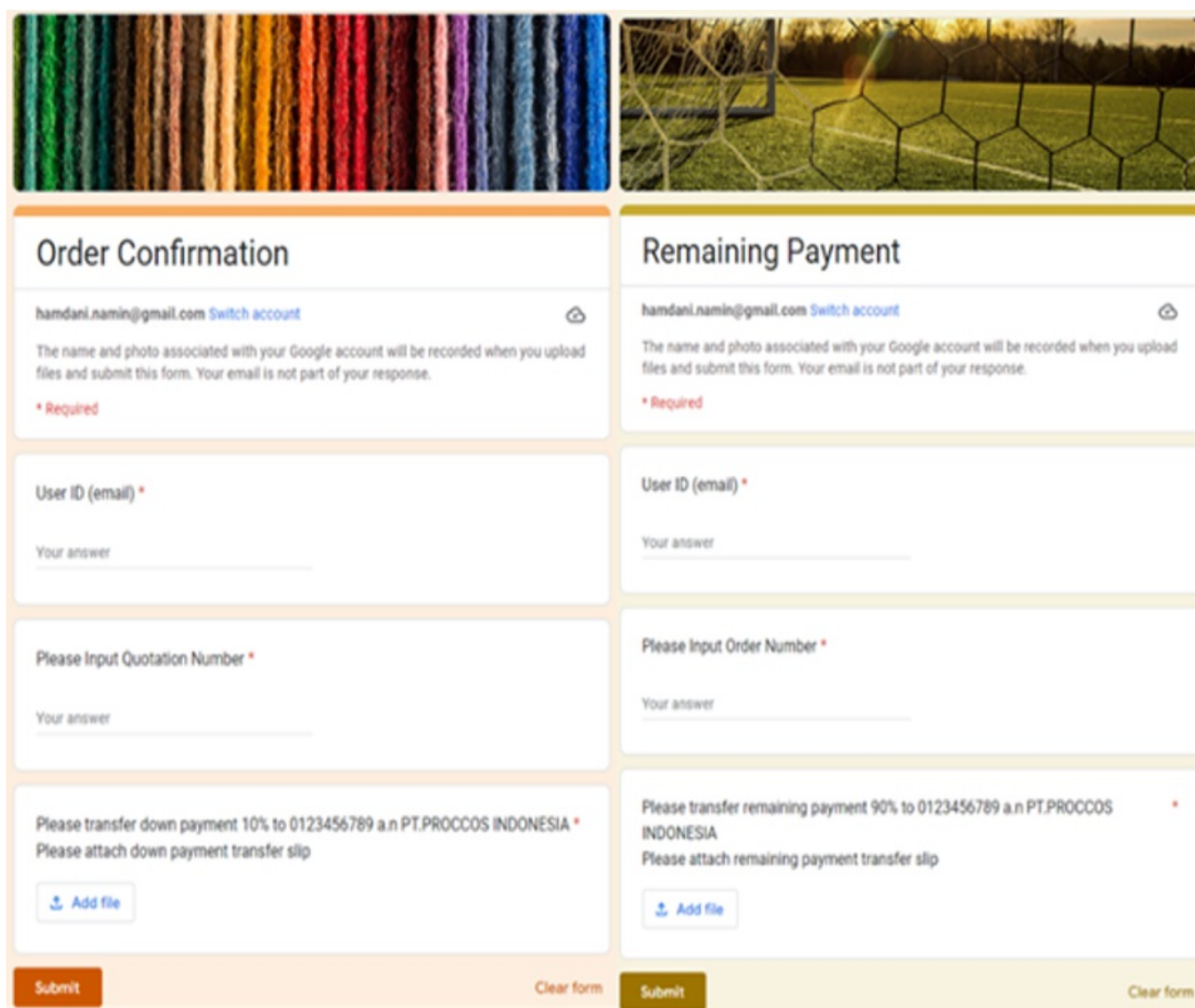
☐ Moderate

☐ Other: _____

[Submit](#) [Clear form](#)

Figure 3.6. Inquiry Submission Form

Next is the Order Confirmation and Remaining Payment process (Figure 3.7), as depicted in the image. During the Order Confirmation phase, the customer is required to provide several details. Firstly, the User ID should match the ID used during the registration process. Next, the Quotation Number needs to be inputted, which is the offer provided by the supplier in response to the customer's request. Afterward, a down payment is required, and the proof of payment should be uploaded as verification. Following the Order Confirmation, the next step is the Remaining Payment. The process remains the same for the customer, involving inputting the User ID and the order number, and then completing the remaining payment by attaching proof of the transfer.



The image displays two side-by-side inquiry submission forms. The left form is titled 'Order Confirmation' and the right form is titled 'Remaining Payment'. Both forms are for the user 'hamdani.namin@gmail.com' and include a 'Switch account' link. They both require a 'User ID (email)' and a 'Please Input Quotation Number' (left) or 'Please Input Order Number' (right). The left form also requires a 'Please transfer down payment 10% to 0123456789 a.n PT.PROCCOS INDONESIA' and a 'Please attach down payment transfer slip'. The right form requires a 'Please transfer remaining payment 90% to 0123456789 a.n PT.PROCCOS INDONESIA' and a 'Please attach remaining payment transfer slip'. Both forms have a 'Submit' button and a 'Clear form' link.

Order Confirmation	Remaining Payment
<p>hamdani.namin@gmail.com Switch account</p> <p>The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.</p> <p>* Required</p>	<p>hamdani.namin@gmail.com Switch account</p> <p>The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.</p> <p>* Required</p>
<p>User ID (email) *</p> <p>Your answer</p>	<p>User ID (email) *</p> <p>Your answer</p>
<p>Please Input Quotation Number *</p> <p>Your answer</p>	<p>Please Input Order Number *</p> <p>Your answer</p>
<p>Please transfer down payment 10% to 0123456789 a.n PT.PROCCOS INDONESIA *</p> <p>Please attach down payment transfer slip</p> <p>Add file</p>	<p>Please transfer remaining payment 90% to 0123456789 a.n PT.PROCCOS INDONESIA *</p> <p>Please attach remaining payment transfer slip</p> <p>Add file</p>
<p>Submit</p> <p>Clear form</p>	<p>Submit</p> <p>Clear form</p>

Figure 3.7. Inquiry Submission Form

Finally, in the My Order stage on the customer's side, there is the Goods Received Status. The customer enters the User ID and the order number to review the completed order. The customer is then required to provide an assessment of the supplier's work in fulfilling their order. During the evaluation stage, several points need to be assessed. Firstly, the confirmation of goods received is indicated. Secondly, the application process is evaluated on a scale of one to five stars, based on the customer's experience. Additionally, the supplier is rated on a scale of one to five stars, and a review of their performance is required as it determines the customer's satisfaction with the received orders.

Goods Received Status

hamdani.namin@gmail.com [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

* Required

User ID (email) *

Your answer

Order number *

Your answer

If all the goods has been completely received *

☐ Yes

☐ No

Please rating the application (scale 1 to 5) *

☐ ★

☐ ★★

☐ ★★★

☐ ★★★★

☐ ★★★★★

Please rating the Supplier (scale 1 to 5) *

☐ ★

☐ ★★

☐ ★★★

☐ ★★★★

☐ ★★★★★

Please upload photo (goods) *

[Add file](#)

Comment *

Your answer

Submit

Clear form

Figure 3.8. Goods Received Status Form

Consumer satisfaction is influenced by both product performance and consumer expectations. Additionally, customer experience plays a significant role, which refers to the internal and subjective response of customers resulting from direct or indirect interactions with a company (Meyer & Schwager, 2007). Ratings, on the other hand, represent customers' opinions on a specific scale. In the context of online stores, star ratings are commonly used, where a higher number of stars indicates a better seller rating. Ratings serve as a means for consumers to provide feedback to sellers. They represent the collective opinions of many individuals and serve as an average evaluation of buyers' ratings regarding various aspects of the seller's product or service. These ratings serve as a representation of consumer sentiment on a specific scale. Consumer satisfaction, in essence, refers to an individual's feelings of pleasure or disappointment that arise after comparing their perceptions or impressions of a product with their expectations (Kaufman, 2014).

2. Supplier Access

A supplier is an individual or a company that consistently sells goods to us. Typically, these goods are not intended for resale, but rather to support business activities. In the past, before the advent of the internet, suppliers faced challenges in reaching consumers. Due to the absence of an online presence, suppliers need additional marketing efforts and a robust network.

Otherwise, the product will accumulate. With the development of the internet and the advent of smartphones, everything has changed, and supplier patterns have become more practical and accessible.

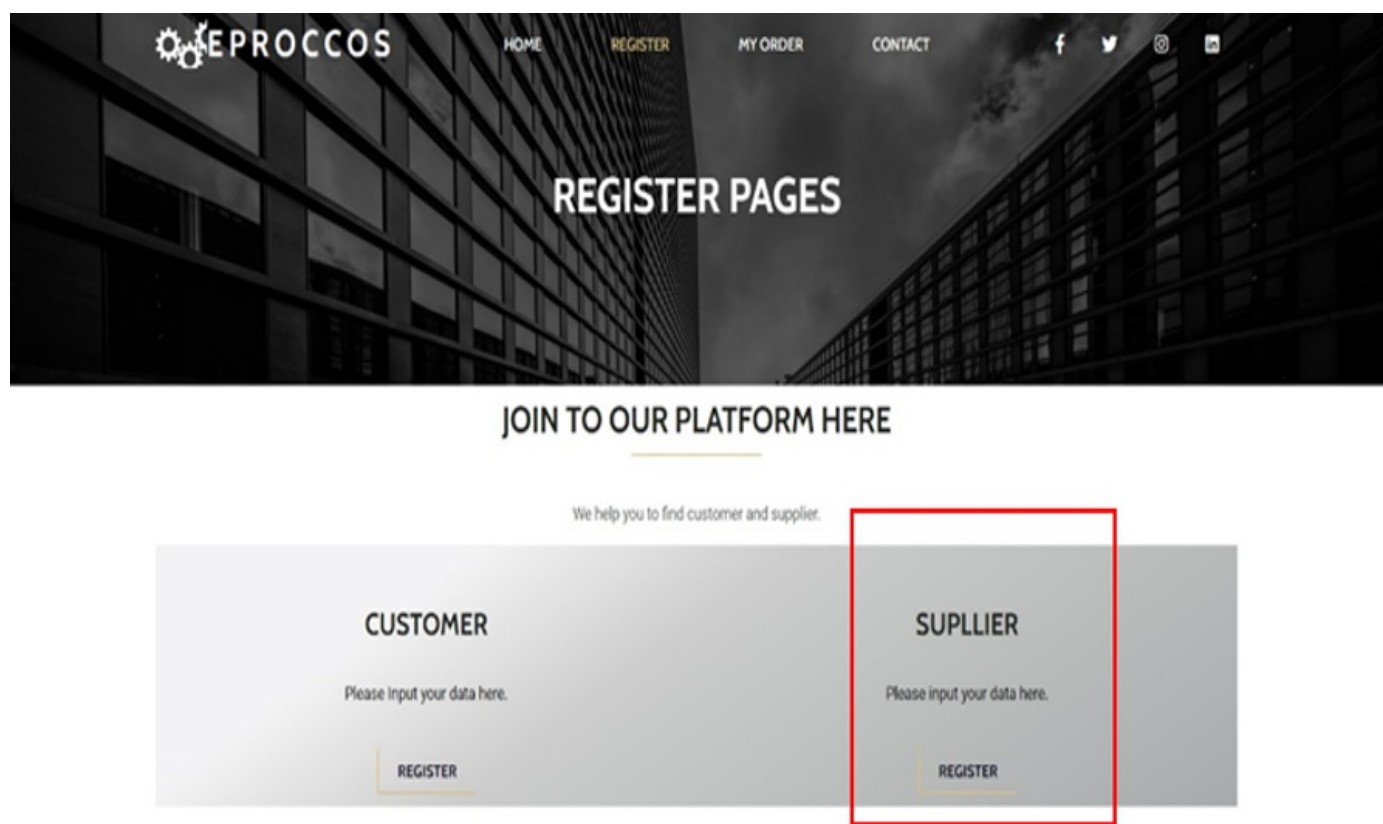
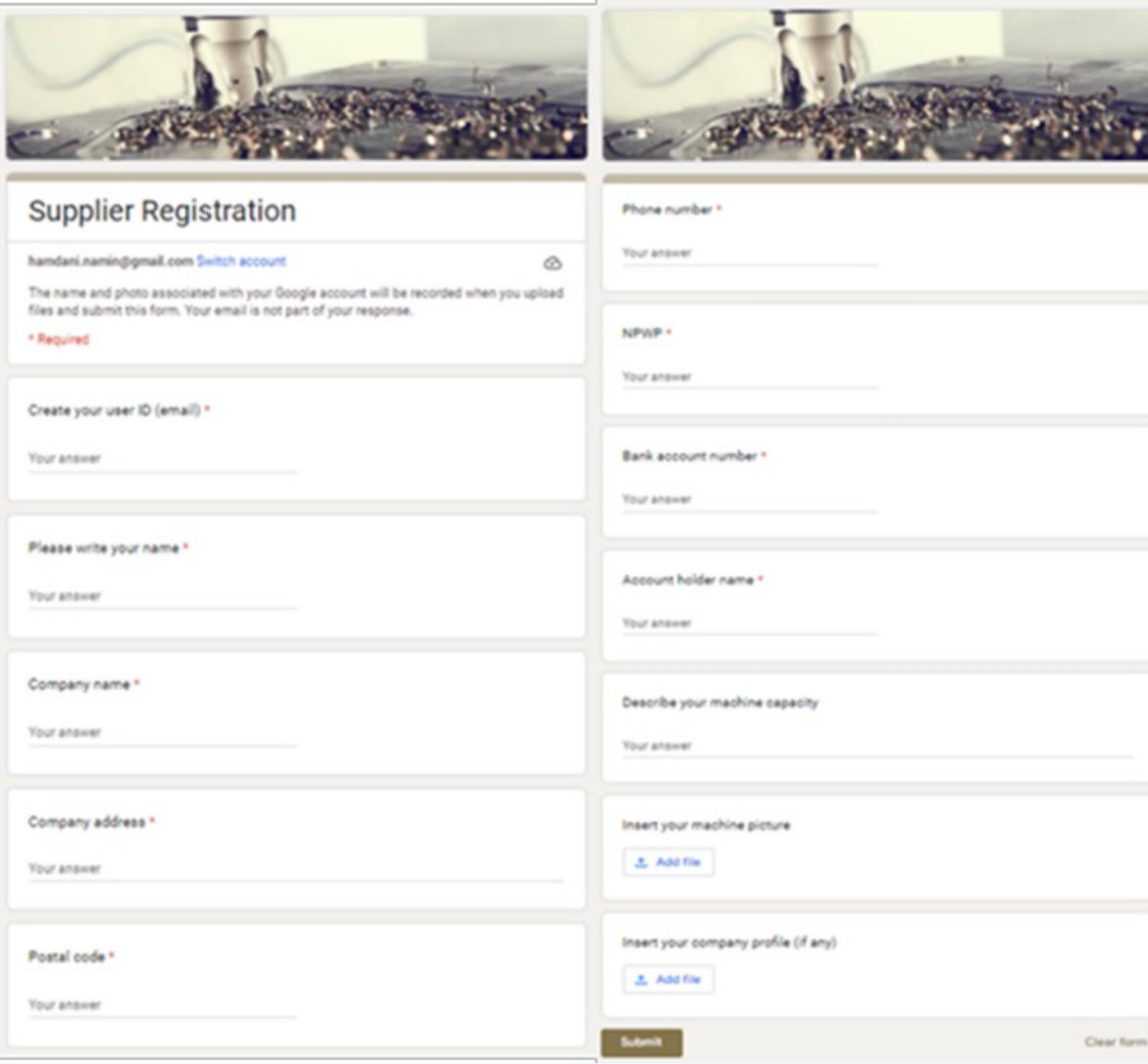


Figure 3.9. Register Pages for Supplier

In the Eproccos application, there are pages for Suppliers. In the first stage, suppliers must register themselves in the Eproccos application (Figure 3.9). This registration is intended to be recorded in the Eproccos database application. Several essential points must be considered by a supplier, including creating a user ID and entering their name. Additionally, they should provide company details such as address, NPWP, bank account information, machine capacity description, and upload images of their machines. Lastly, if available, they should also provide their company profile.



The image shows a 'Supplier Registration' form with a header image of a robotic arm. The form is divided into two columns. The left column contains fields for 'Create your user ID (email)', 'Please write your name', 'Company name', 'Company address', and 'Postal code'. The right column contains fields for 'Phone number', 'NPWP', 'Bank account number', 'Account holder name', 'Describe your machine capacity', 'Insert your machine picture' (with an 'Add File' button), and 'Insert your company profile (if any)' (with an 'Add File' button). A 'Submit' button is at the bottom left, and a 'Clear form' link is at the bottom right. A message at the top left states: 'The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.' A red asterisk indicates required fields.

Supplier Registration

hamdani.namin@gmail.com [Switch account](#)

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not part of your response.

* Required

Create your user ID (email) *

Your answer

Please write your name *

Your answer

Company name *

Your answer

Company address *

Your answer

Postal code *

Your answer

Phone number *

Your answer

NPWP *

Your answer

Bank account number *

Your answer

Account holder name *

Your answer

Describe your machine capacity

Your answer

Insert your machine picture

[Add File](#)

Insert your company profile (if any)

[Add File](#)

[Submit](#) [Clear form](#)

Figure 3.10. Supplier Registration Form

The User ID is an essential requirement during the registration process for suppliers as it is directly linked to their identity (Figure 3.10). Additionally, the supplier should provide company information such as name, address, and telephone number for registration purposes. The Bank account number is necessary for transactions when customers make down payments as receipts for customized parts orders. Describing the machine is another important aspect, as it indicates the supplier's capacity to meet customer demands. Having information about the machine capacities of each supplier will also facilitate the future development of Eproccos members. Lastly, providing a Company profile is optional, as some suppliers may still be in need of one.

Once the registration is complete, users can access the "My Order" pages, which include the Bidding form and Order status updates (Figure 3.11). The Bidding form requires inputting the User ID, Inquiry number, Price, and lead time. Order status updates follow a similar process, requiring the User ID and Order number, and finally uploading the order.

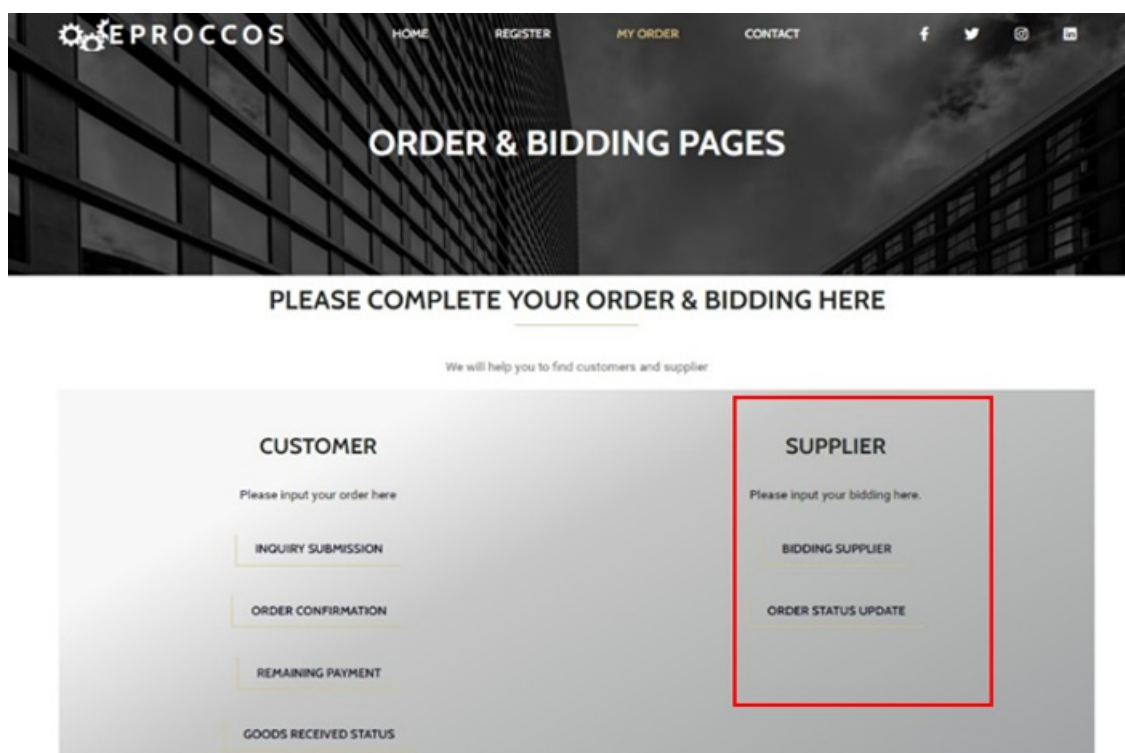


Figure 3.11. Order and Bidding Pages for Suppliers

Moving on to the Bidding form, suppliers need to pay close attention when filling in the User ID and Inquiry numbers as they determine which orders will be subject to bidding. Regarding the Price, it is highly recommended that suppliers set realistic prices and avoid careless calculations that may result in unfair competition. When determining the Price, suppliers should consider the level of difficulty of the work and calculate it based on the costs and services they provide. Pricing is an important aspect that is often discussed in both large and small-scale businesses.

There have been numerous cases of price fixing in various companies, both small and large. It is crucial to uphold ethics in business practices. According to Kotler & Armstrong (2012), the price represents the amount of money charged for a product or service or the value exchanged by consumers in exchange for the benefits of having or using the product or service. Additionally, suppliers must specify the lead time for customized parts. This factor is a separate consideration for customers, as they often prioritize the urgency of personalized features over the Price. Hence, lead time is a crucial factor taken into account by customers.

The image displays two side-by-side screenshots of web forms. The left form, titled 'Bidding Form', has a blue header with the word 'Bid' in white. It contains fields for 'User ID (email)', 'Please Input inquiry number', 'Price (IDR)', and 'Lead Time', each with a 'Your answer' input line. The right form, titled 'Order Status Update', has a green header and contains fields for 'User ID (email)', 'Order number', and a section for uploading files with the text 'Please update if the order is completely done' and an 'Add file' button. Both forms include 'Submit' and 'Clear form' buttons at the bottom.

Figure 3.12. Bidding Form and Order Status Update for Suppliers

After successfully winning the bidding process and being selected as the supplier for an order, it is crucial for the supplier to fill out the order status update form. This step ensures that the order is completed within the specified lead time as agreed upon during the bidding phase. The supplier must provide their User ID and order number in the update order status form. These two pieces of information are vital for tracking the progress of the application process and confirming that the order has been fulfilled. Additionally, the supplier is required to upload any necessary files once the order is completed.

In comparison to customers, suppliers have more steps involved in the registration process. This is because becoming an Eproccos member as a supplier requires clear conditions that ensure their accountability. Suppliers hold a crucial role in determining product quality, costs, and accessing company financing. Quality and service provided by suppliers are key factors in determining customer satisfaction. Both customers and suppliers play integral roles in the Eproccos application, as they are essential components of this platform's ecosystem.

3.2. Measure: Measuring the Result of the MVP

To evaluate the results of our Minimum Viable Product (MVP), we employed various tools including Test Market and Google Ads to assess the reaction of our target market, consisting of customers and suppliers, as well as gather their feedback and willingness to cooperate with our business.

- Sample Test

Test markets are clearly not suitable for industries where the technology requires a similar level of investment to produce one unit. In our business, we approach suppliers and customers who are also users of our applications. We conduct interviews and gather requirements from customers. During the simulation process, two customers upload inquiries along with three drawings. These inquiries are compiled and then included in the bidding process for each supplier. There are four suppliers who can manufacture the products because their machines are compatible and capable of producing them.

- Google Ads

The tool we use to measure the effectiveness of our advertising is Google Ads. The simple formula for calculating the Click-Through Rate (CTR) is the number of clicks divided by the number of times the ad is displayed. According to Smart Insights in December 2022, Google search ads had the highest CTR at 0.57%. Products in industrial areas such as Cikarang, Jababeka, and Bekasi have a high impression rate, indicating positive market demand for components or parts.

4. Implementation Plan

4.1. Marketing Strategy

The marketing strategy we have planned aims to expand and capture a larger market share for our product, Eproccos. The challenge lies in convincing users to adopt our innovative solution, which differs from their current approach of directly dealing with suppliers. We have identified several step-by-step strategies to successfully approach the market.

- Workshops Onboarding

The initial strategy is to introduce Eproccos directly to workshops in the surrounding industrial areas. By onboarding a significant number of workshops into our ecosystem, we can effectively filter the qualification of workshops as suppliers, ensuring the delivery of high-quality customized components. Additionally, this approach enables us to attract multiple bidders for customer-quoted jobs, resulting in competitive prices and optimal lead times that align with customers' requirements in this business.

- Acquisition Strategy and Customer Approach

Engaging potential customers in the industrial area and persuading them to use or purchase customized components through Eproccos can be challenging. We need to demonstrate the platform's value by presenting and simulating the bidding process. Our aim is to showcase the ability to generate competitive prices and efficient lead times, without being limited by geographical coverage or distance. Furthermore, we need to educate customers about the increased efficiency and productivity they can achieve in their procurement process. They will no longer need to spend excessive time gathering quotes from various suppliers for customized component requisitions. To strengthen our position and introduce this new product to the market, we plan to pursue acquisition opportunities with the management of industrial areas.

- Customer Retention Strategy

The next strategy involves retaining customers who have already started using Eproccos and encouraging them to share their positive experiences with others. To achieve this, we apply a low recharge fee for using our solution. In our financial projections for the next five years, we have allocated a 7% recharge fee. Our primary focus is on increasing traction and aiming for a 30% market share within five years. Once we have achieved that, we can consider increasing profits by raising the rate to 15%.

- Stakeholder Partnership

The success of this business relies not only on collaboration with customers and suppliers (Wilson, Speare, Reese, & Heiman, 2002) but also on engaging other stakeholders such as transporters, educational institutions, and potentially creating hubs in multiple industrial areas. Partnerships with transporters will not only help us secure competitive costs but also serve as a means to promote our brand. Collaborating with educational institutions specializing in the machining industry will allow us to leverage their expertise and contribute to our technological and business growth. Additionally, establishing hubs in each industrial area will enhance our supply chain activities.

- Industrial Park Collaboration

To further strengthen our brand awareness and promotion, we plan to collaborate with industrial area management to offer Eproccos as one of their services to tenants. Our solution aligns with digital transformation principles and is well-suited for the industrial 4.0 era. By partnering with industrial areas, we can leverage their resources to promote our solution to new potential customers.

4.2. Production Plan

The business will operate through a web-based platform. The concept was developed by identifying the problem and designing a business process that incorporates simple forms for submission. The evolution of the product can be divided into three stages: Prototype, Minimum Viable Product (MVP), and Automatic Application.

4.3. Human Resources Future Plan

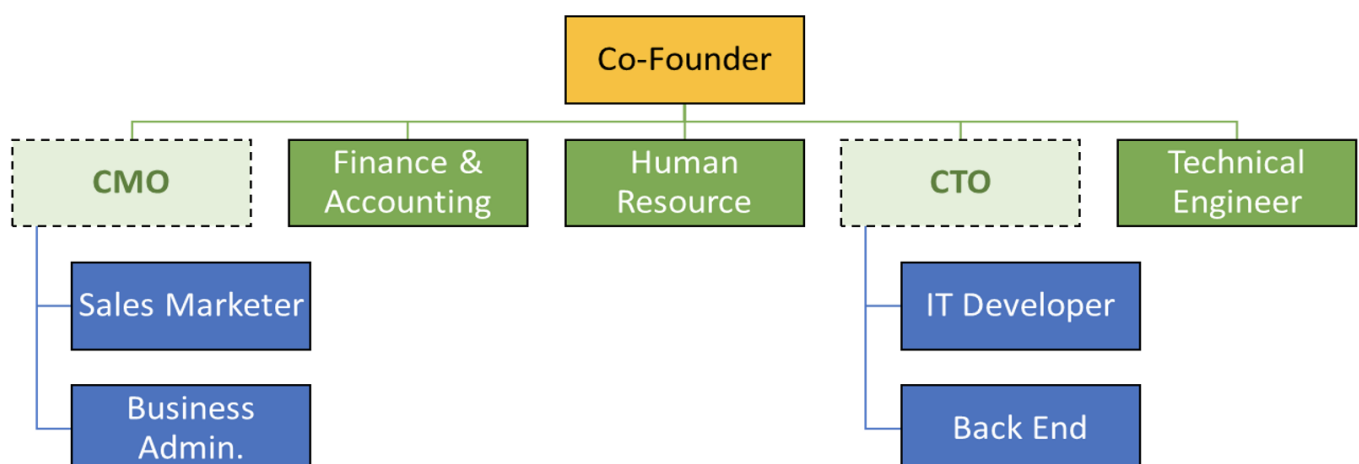


Figure 4.1. Organization Structure

4.4. Financial Plan

The funding for the business comes from self-funding and pre-seed funding, which is expected to be secured in the second year. In the first year, we will start with Rp.100,000,000 to approach customers in the industrial area and encourage them to place orders through Eproccos.

Initial Investment	Amount	weight
Self-Funding	Rp100,000,000	14%
Pre-Seed Funding	Rp600,000,000	86%
total	Rp700,000,000	100%

Tabel 4.1. Initial Investment (Source: Authors' Primary Data)

We aim to achieve a 5% market share by the end of the first year, which would result in approximately 586 million IDR in orders or 41 million IDR in revenue in December, assuming a 7% recharge fee. For the first five years, we will maintain the 7% application fee to retain customers and encourage them to purchase customized components through Eproccos. After five years, our target is to increase the service fee to around 10% to 15% per transaction. In the second year, 2024, our goal is to expand the business and capture more market share. We anticipate receiving pre-seed funding of approximately 600 million IDR in May 2024.

Over the course of five years, we expect an Internal Rate of Return (IRR) of 367%, which exceeds the assumed capital cost of 7% per year. The payback period is estimated to be 36 months. With a positive net return of 2.4 billion IDR and a return on investment (ROI) of 85%, Eproccos demonstrates itself as a profitable investment.

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5. Conclusion

Eproccos has been developed using a design thinking approach, which involves generating ideas that address the problems identified during the interview sessions. The main idea behind Eproccos is to introduce digital transformation in the customized components business, shifting from conventional methods to digital platform solutions. The goal of Eproccos is to enhance the productivity of customers' procurement teams by providing them with competitive prices and optimal lead times. Additionally, Eproccos aims to offer suppliers additional opportunities to expand their businesses. The

market entry and approach strategy employed by Eproccos involves initially acquiring as many suppliers or workshops as possible, followed by acquiring potential customers to conduct business through the platform. The projected trajectory for the first five years of the business is focused on increasing traction. Financial analysis indicates that the business is profitable, with a return on investment expected within three years. Considering its financial performance, Eproccos proves to be a promising investment.

References

- Jurriens, E., & Tapsell, R. (2017). *Digital Indonesia: Connectivity and Divergence*. Singapore: ISEAS Publishing.
- Langerak, F. (2001). The Relationship between Customer and Supplier Perceptions of the Manufacturer's Market Orientation and Its Business Performance. *International Journal of Market Research*, 1-19.
- Meyer, C., & Schwager, A. (2007). Understanding customer experience. *Harvard Business Review*, 117-126.
- Schallmo, D. R., & Tidd, J. (2021). *Digitalization: Approaches, Case Studies, and Tools for Strategy, Transformation, and Implementation*. New York: Springer International Publishing.
- Schuh, G., Potente, T., Wesch-Potente, C., Weber, A., & Prote, J.-P. (2014). Collaboration Mechanisms to Increase Productivity in the Context of Industry 4.0. *Procedia CIRP*, 51-56.
- Wang, W., & Marcus, A. (2019). *Design, User Experience, and Usability: Practice and Case Studies*. New York: Springer International Publishing.
- Wilson, K., Speare, N., Reese, S., & Heiman, M. (2002). *Successful Global Account Management: Key Strategies and Tools for Managing Global Customers*. London: Kogan Page.