



Designing for Operational Efficiency:

Aligning Strategy and Operations
of a Philippine Medium-sized Enterprise

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Preface

Behind the grills of her sari-sari store in an alley along Manila, Nena effortlessly counts the coins the customer had given her for a plastic of ice. As she reaches her hand through the small window, she gives the change with a sigh and wishes that her humble shop would someday turn into a supermarket. She hopes to employ more individuals and help them in having a more comfortable life as she has done coming to the metropolitan from the province. She can only wish for now with the small income she gets from manning her small store. She proceeds to count the sachets of instant coffee hanging above her with a deep grief in her chest. Despite her desire to escape the dull routine, she lacks the resources to expand her store to make a significant difference for others.

This is a truth that many Filipinos face; there is great ambition but are stuck with the realities of life. With this project, I aim to enable entrepreneurs in building capacity to achieve their desired success. I hope to help other Filipinos who long for a more comfortable life, just like how my parents aspired and worked hard for. This is my way of giving back – serving the Filipino people.

After all, the deepest purpose of being a *designer* is helping others.

Padayon!

(Let's keep moving forward!)

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Eunice Mae Castor
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Executive Summary

Micro, Small, and Medium-sized Enterprises (MSMEs) are essential for every economy due to their impact on economic development, especially for emerging countries. However, these businesses are often faced with challenges and limitations such as limited human resources and access to technology (Harvie, 2015; Almeda & Baysic-Pobre, 2013). Thus, it is crucial to provide them with support in developing and implementing strategies that promote their growth, thereby enhancing the broader economy.

This thesis project utilized a medium-sized enterprise, Top Trust Mart, as a case study to investigate MSMEs in the Philippines. Its primary objective is to align its operations with its strategy of offering a wide range of low-priced products while providing personalized customer service.

Using the Double Diamond framework by the Design Council UK (2005), design methods and tools were employed to understand the business and identify underlying problems. The findings revealed the issues of low stock availability, lack of customer-centric experience, and efficient operational processes. This facilitated the definition and formulation of the design challenge centered on redesigning the order fulfillment process service blueprint of the messaging application channel for retail transactions.

Efficient Consumer Response (ECR), a strategy aimed at improving the grocery supply chain while responding to customer needs promptly (Helmold, 2023), served as an inspiration to formulate strategies for the redesigned service blueprint. This framework was deemed suitable for the project due to its focus on optimizing the grocery store process to efficiently respond to the customer.

The design strategies implemented include enabling technologies, addressing stock outs early in the process, and optimizing roles. These aim to accelerate fulfillment times, streamline communication within the order fulfillment process, reduce redundancies, and enhance overall efficiency. An implementation plan was also developed to supplement the intervention.

Validation of the design was conducted through 10 interviews to evaluate the perceived effect of the redesigned service blueprint. Overall, the feedback of the participants was positive towards the proposed design due to the perceived improvement in the efficiency of the order fulfillment process, resulting in customer satisfaction.

In conclusion, the project offers academic and practical contributions by expanding the understanding of how ECR initiatives and service blueprints can enhance operational efficiency in MSME grocery stores. It highlights the use of technology to streamline the order fulfillment process, align operations with strategic objectives, and builds on the discourse on operational efficiency in emerging markets. For future considerations, it is recommended to assess the design's compatibility with the processes of the other channels, enhance employee training, and apply the design to other departments within the business. This project serves as inspiration to other MSMEs within the context to utilize design in developing their ventures, ultimately benefiting the Philippine business landscape.

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chapter one

01

Introduction

1.0

In this chapter, an overview of the project's background, focus, and motivations are described. The research questions are also discussed and ends with the design approach of how the project was tackled.

In this chapter:

1.1 Project Context

1.1.1 Philippine MSMEs in the Grocery Sector

1.1.2 Top Trust Mart Background

1.1.3 Top Trust Mart Company Strategy

1.2 Project Scope

1.3 Design Approach

1.0 Introduction

Enterprises are vital to any economy, especially in emerging markets where development is crucial for poverty reduction, employment, and economic growth. In the Philippines, Micro, Small, and Medium-sized Enterprises (MSMEs) are essential, especially as livelihood support of many entrepreneurs. Grocery stores are among these MSMEs that provide food security within different neighborhoods and communities. Despite their importance, they are faced with challenges such as operational efficiencies that hinder their growth (Harvie, 2015). Thus, there is a need for efficient and resilient business processes for these enterprises to remain competitive. This graduation project explored how strategic design can tackle inefficiencies, specifically enhancing the order fulfillment process of a medium-sized grocery store in the Philippines.

The selection of the project's focus was motivated by the need to support Philippine MSMEs because of their importance to the Filipino community, which I am part of and personally affiliated with. The lack of resources often hinders their development and their potential to be more impactful to the economy. Thus, it is important to support these enterprises to help in strengthening the nation. This gap presented an opportunity to explore how design can be utilized to create interventions for these types of enterprises.

This graduation project explored how strategic design can tackle inefficiencies, specifically enhancing the order fulfillment process of a medium-sized grocery store in the Philippines.

This design graduation project stimulates the conversation around design in emerging markets like the Philippines where design is overlooked and undervalued. It contributes to the discourse on how design can help develop these MSMEs and overcome their challenges. Compared to the traditional business approach, the use of design in this project utilizes holistic problem solving, creativity, and empathy by focusing on the needs of both the business and its customers. As a designer, I bring a perspective that is distinct from other disciplines. By using service blueprints, I used visual communication to analyze the order fulfillment process and uncover the underlying causes of inefficiencies that may not be visible through traditional analysis. Moreover, the holistic user-centered approach allowed the creation of an intervention tailored to the context of these MSME grocery stores. This establishes a resilient and efficient service process for these enterprises, contributing to the development of the Philippine business landscape.

1.1 Project Context

1.1.1. Philippine MSMEs in the Grocery Sector

The Philippines is an emerging market and has one of the most dynamic economies in Southeast Asia. Its business landscape is dominated by Micro, Small, and Medium-sized Enterprises (MSMEs) that cater to the growing consumer demand. Among these MSMEs are mostly sari-sari stores (small neighborhood stores) and grocery stores (Intal, 1999) that contribute to filling the poverty gap through employment and livelihood opportunities.

These stores play a crucial role in the local communities and are primary sources of daily necessities for the population. Grocery stores attract customers by offering a wide range of products, convenience, and competitive prices (Duenas-Caparas, 2005). Meanwhile, sari-sari stores offer accessibility especially to local neighborhoods (Almeda & Baysic-Pobre, 2013). They often act as intermediaries between the grocery stores or supermarkets through purchasing products at wholesale prices and selling them to customers in smaller and more affordable quantities (Harvie, 2015). These stores remain relevant due to their ability to penetrate areas that are not easily accessible by supermarkets in this context (Gano-an & Gempes, 2020).

However, these MSMEs are faced with several challenges especially the lack of resources including financial, manpower, and entrepreneurial skills (Harvie, 2015; Canare et al., 2017). Due to their lower capitalization and weaker integration into value chains compared to larger businesses, they have limited access to inputs, technology, and networks that could enhance their efficiency and productivity (Canare et al., 2017). Moreover, there is low investment in research and development in this emerging economy, hindering the growth of these firms (Almeda & Baysic-Pobre, 2013). These limitations restrict their ability to compete

effectively in the market, innovate, and expand their operations.

In the Philippine context, business processes and operations management are severely lacking (Martinez et al., 2022). Focusing on the grocery sector, it is crucial to develop logistics management to efficiently and effectively organize the supply and distribution of a large amount of product lines (Duenas-Caparas, 2005). The consistent development in quality, cost, and delivery speed are significant in capacity building for effective organizational management (Harvie, 2015). Communication, coordination, and cooperation are important in creating seamless operations that are timely, responsive, and flexible (Hoffman & Mehra, 2000). Operational efficiency also affects customer satisfaction that is crucial for business growth (Gano-an & Gempes, 2020). However, these are difficult to achieve due to the barriers that these businesses are faced with (Usmayanti & Sofyana, 2022). Addressing challenges of grocery stores can lead to significant development in operational performance, improving the state of Philippine MSMEs.

1.1.2 Top Trust Mart Background

The project involved a medium-sized enterprise in the Philippines. For confidentiality purposes, the name of the enterprise was changed to Top Trust Mart. The family-owned business has been running for more than three decades. It transacts both business-to-business (B2B), through its wholesaling department, and business-to-consumer (B2C), through its retailing department. The wholesaling section caters mostly to owners of sari-sari stores or neighborhood stores that are micro-sized enterprises. Meanwhile, the retail department caters to the regular household shoppers who purchase for their own consumption. Their product offerings include household items, such as soap and detergents, and basic needs such as processed foods and rice. Besides eggs, they do not offer other fresh produce or poultry products.

1.1 Project Context

Its physical store and main warehouse are in separate streets, both located in a municipality and accessible to adjacent customers from two other cities. For the purpose of confidentiality, the physical store is referred to in this project as Main Site. This is where customers can visit the store physically. The warehouse area of this site is mostly allocated for retail products, while a separate warehouse, called Warehouse Site, stores wholesale orders. Due to the limited space in the Main Site, all deliveries are sorted and collated at the Warehouse Site for dispatch.

1.1.3 Top Trust Mart Company Strategy

Strategy guides an organization towards a direction that is vital to its long-term success (Calub, 2018). For Top Trust Mart, its main strategy is to have a complete range of products with low prices while offering personalized customer service. They aim to offer a complete assortment for customers to find what they need in the store without having to visit their competition. Additionally, since sari-sari stores are one of their primary target markets, offering the merchandise at lower prices than competitors provide the opportunity for these customers to profit from their own micro-businesses. This is also beneficial for the regular household shoppers to lessen their everyday expenses. Moreover, having a personalized customer service encompasses having fast and accurate transactions that results in customer satisfaction. It also means having good and close relationships with the customers such as through greeting those regular customers with their name.

The heart of Top Trust Mart is in its operations department, known as Operations Services. This department oversees all day-to-day activities

as well as customer service. It involves a complex network of activities to generate value for the business and its customers. According to the Chief Operating Officer, these processes are developed and assessed based on experience. For example, when a customer complains about an issue, they create a process to address this issue. There is currently no specific person to do preventive auditing of the processes because of lack of personnel. The complex network of activities in Operations involves different procedures and processes that run regularly; thus, challenges also occur often. These can range from technological, such as slow internet connectivity and unresponsive POS system, to operational management, such as out of stock and delays in delivery.

In this project, Top Trust Mart was used as an organizational case due to its relevance to the field of MSMEs in the grocery sector. Its characteristics are similar to other MSMEs in the context such as size, offering, and challenges. It faces common problems in the field including inefficiencies in its operational processes, lack of access to technology, and limited capabilities of employees. Proposing design interventions to the operational challenges of Top Trust Mart serves as a springboard to address the other barriers in the organization. By assessing the operations of Top Trust Mart, other MSMEs in the grocery sector can adopt best practices to improve their efficiency. It also adds value to design strategy by exploring the importance of aligning operations with the company strategy. Moreover, since design is an undervalued field in emerging countries, this project contributes to the limited body of knowledge about design in the Philippines, ultimately strengthening the business landscape.

1.2 Project Scope

This study focuses on Top Trust Mart as a medium-sized enterprise in the Philippines aimed at investigating its current operations to better align with the company's strategy. Its primary goal is to enhance the operational efficiency of the business, while recognizing the socio-economic and cultural environment. The challenges specific to Philippine MSMEs in the grocery sector influenced the design process and the proposed intervention by shaping the decisions made in the project. The focus on the grocery sector also aids in understanding the operational challenges of a complex and dynamic system. With the recognition that business operations is critical to customer satisfaction (Kumar et al., 2011), the project focused on the processes within the day-to-day activities of the enterprise. Thus, the objective of this project was to improve the company's operational efficiency to align with its strategy. Based on this, the study was guided by the following questions:

By addressing these, a thorough understanding of the operational landscape of Top Trust Mart was gained, resulting in designing solutions beneficial to the business. This involved a thorough review of the current state of the firm and an analysis of its challenges. From this, the project's objectives was achieved and overall contributed to the success of other MSMEs.

- 01 What are the primary operational challenges that Top Trust Mart currently faces?
- 02 How well do the current operations align with the company's strategy?
- 03 How can operations of Top Trust Mart be improved to align with the company's strategy?

1.3 Design Approach

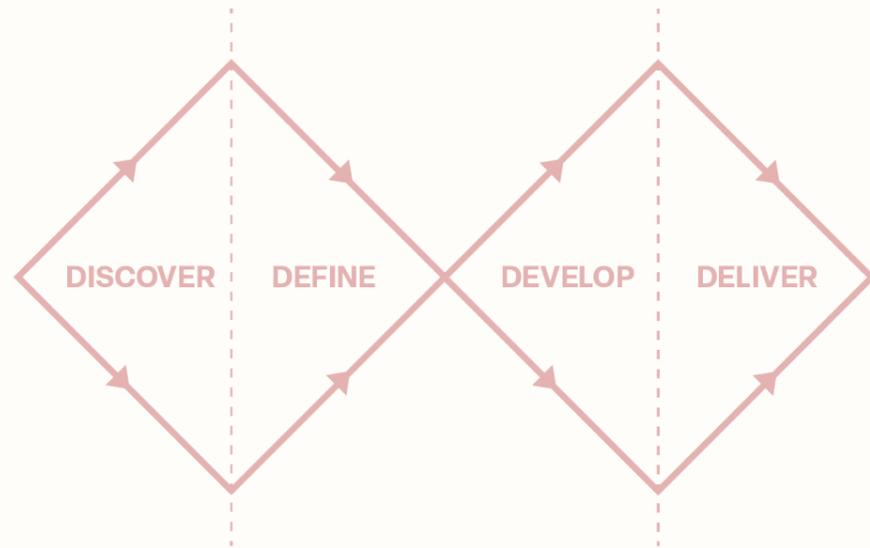


Figure 1. The Double Diamond by the British Design Council (2005)

To achieve the goals of this project, the Double-Diamond framework by the Design Council UK (2005) was utilized (Figure 1). As the name implies, it is composed of two diamonds with two diverging and two converging stages: Discover, Define, Develop, and Deliver. According to the Design Council UK (2011), every design process undergoes a divergent phase to discover opportunities and moves to a convergent phase where synthesis and analysis is done to define the problem specifically. With the design problem, the second diamond diverges into the develop phase where interventions are crafted and developed until finally converging into the final solution to be used.

The initial Discover phase involves thinking divergently by learning about the problem space and exploring the context (Design Council UK, 2011). In the project, this was done through a review of literature to gain more understanding of the context. It was also significant to assess the state of the business used as a case in this project. This was done by analyzing the current activities of the enterprise, specifically the processes, to identify bottlenecks or inefficiencies, and discover opportunities for growth.

The next phase of the project, based on the Double Diamond, synthesizes the insights gained from the Discover phase and narrows down the scope into a more specific design brief, thus moving from diverging to converging. This is called the Define phase. By analyzing themes and patterns from the insights, opportunities were formulated to frame the design problem (Design Council UK, 2011).

Upon definition of the design challenge, the next converging phase was tackled. The Develop phase is where ideation happens, exploring possible solutions to the problem. Lastly, the Deliver phase of the Double Diamond practices convergent thinking. This is where the design intervention was finalized. This phase involved presenting the project's findings to the stakeholders and validating the final output.

chapter two

02

Literature Review

2.0

This chapter provides a review of the existing literature on the context and focus of the project. The framework is also discussed as foundation for the strategies employed in the intervention.

In this chapter:

2.1 MSME's in the Philippine Context

2.1.1 Background and definition

2.1.2 Philippine Grocery Sector

2.2. Efficient Consumer Response (ECR) Framework

2.2.1 Background

2.2.2 Core Components

2.2.3 Benefits of ECR

2.3 Order Fulfillment Process

2.1 MSME's in the Philippine Context

2.1.1 Background and definition

The global business landscape is dynamic and constantly changing. A major contributor to the international economic growth is the Micro, Small, and Medium Enterprises (MSMEs) sector (Irawan et al., 2023). These businesses are the backbone of different economies, especially in emerging countries (Anggadini et al., 2023). They are considered more than just local business entities but catalysts to economic development (Irawan et al., 2023). They play an important role in employment growth, poverty reduction, and promoting entrepreneurship (Yeung, 2017). The Philippines is no exception, where MSMEs compose a significant portion of the business landscape.

In the Philippines, MSMEs comprise 99.59% of the total businesses in the country (Philippine Department of Trade and Industry, 2022). Philippine MSMEs can be defined by either its employee size based on the Philippine Statistics Authority (PSA) or asset size based on Magna Carta for Micro, Small, and Medium-sized Enterprises with the former being more popularly used. The main source of data on MSMEs is gathered by the PSA, wherein the categorization is based on the employment size in its establishment surveys (Almeda & Baysic-Pobre, 2013). Thus, this definition will be used in the project.

PSA defines MSMEs and large enterprises as:

- Micro:**
1–9 employees
- Small:**
10–99 employees
- Medium:**
100–199 employees
- Large:**
200 and above employees

In the Philippines, MSMEs comprise 99.59% of the total businesses in the country.

(Philippine Department of Trade and Industry, 2022)

Philippine MSMEs are small-scale enterprises that provide a large impact on the Philippine economy. They contribute to regional and local development as well as employment growth (Almeda & Baysic-Pobre, 2013). In emerging countries like the Philippines, they transform the region through encouraging competition in international and domestic markets (Gamad, 2017 & Martinez et al., 2022). While large enterprises accelerate the industrialization process in a region, MSMEs provide vital linkages to catalyze development (Harvie, 2015). As an “entrepreneurial engine”, they provide income for entrepreneurs (Martinez et al., 2022) and shape society and economy through encouraging co-creation of more entrepreneurs (Gamad, 2017). They are valuable agents for societal empowerment as they help in alleviating poverty and in providing opportunities for minorities such as women (Harvie, 2015). Despite having a small capital to operate a business, a survey by the Global Entrepreneurship Monitor (GEM) showed that 85% of Filipino respondents have a high interest in being an entrepreneur and consider that it is a good career choice (Martinez et al., 2022). Because of these, MSMEs are important in local capacity building.

Additionally, they contribute to employment growth through providing other work opportunities. MSMEs generated 5.7 million jobs or 65.1% of the total employment in 2022 according to the Philippine Department of Trade and Industry (Philippine Department of Trade and Industry, 2022). This employment affects the Gross Domestic Product (GDP) of the country. As employment increases, the GDP also rises (Tadeo et al., 2023). This proves the impact of MSMEs on the economy.

2.1 MSME's in the Philippine Context

With the high employment enterprises generate, it can be expected that MSMEs have a high productivity rate. Unfortunately, this is not the case. Compared to large businesses, MSMEs have lower productivity contributing to only 35.7% to the Gross Value Added (GVA) due to several barriers (Cammayo, 2020; Canare et al., 2017). This is due to the loop of challenges that they face. They are unable to employ highly competent labor due to low wages because of their low profitability (Cammayo, 2020; Martinez et al., 2022).

MSMEs are confronted with barriers, especially in the lack of resources that they need to propel a business. This includes finance, technology, information, and skills (Harvie, 2015; Almeda & Baysic-Pobre, 2013; Philippine Institute of Developmental Studies as cited by Cammayo, 2020). On top of these are many new changes they must withstand because of globalization such as increase in competition, market demand, and technological innovations (Harvie, 2015).

The barriers and challenges inhibit the potential of Philippine MSMEs to contribute to the development of the country. As a massive part of the economy, it is important to help develop these enterprises that cultivates entrepreneurs for local and regional development, ultimately, improving the overall Philippine economic landscape.

2.1.2 Philippine grocery sector

The liberalization in the Philippines benefited various service sectors, including the distribution sector. Most companies are in this domain as it comprises almost 50% of MSMEs (Philippine Department of Trade and Industry, 2022). Wholesale and retail trade are part of this division, with the latter dominating the size of the sector (Dueñas-Caparas, 2005). Goods sold in wholesaling and retailing include processed and unprocessed food, beverages, tobacco, construction materials, and dry goods. The kind of products involved in the two types of trading do not vary as much, but the main difference can be seen in the end-users of the service (Dueñas-Caparas, 2005). Wholesalers deal with retailers, institutions, the government, and other wholesalers, while retailers resell goods for persons and households (PSA as cited by Intal et al., 1999). Usually, wholesalers have business-to-business (B2B) transactions while retailers have a business-to-consumer (B2C) transaction type. Retailers depend on wholesalers while wholesalers transact with suppliers and manufacturers for cash-on-delivery transactions or credit extension (Dueñas-Caparas, 2005). There are also establishments that practice a mix of wholesale and retail, particularly in the Philippines who want to cater to families that buy in bulk (Romo et al., 2009).

A significant part of the distribution sector in the Philippines involves food retailing. The supermarket sector took off in the late 1990s to 2000s and plays an important role in food costs and security in both urban and rural areas (Romo et al., 2009). The increasing population and changing demographics and lifestyles drive the expansion of the retail industry thus the products sold in malls and retail stores are also rising (Digal, 2015). There was a rapid emergence of new formats aimed at significantly increasing and speeding up market penetration across various segments, including lower, middle, and upper-income groups, suburban and densely populated urban areas, and local neighborhood stores (Romo et al., 2009). Food

2.1 MSMEs in the Philippine Context

retailing in the Philippines has transformed thereby segmenting the service into traditional and modern as explained below.

Romo et al. (2009) describes the differentiation between the two segments. Traditional Philippine food retailing includes wet markets, small shops called sari-sari stores, and mobile small retailers such as carts and hawkers. Meanwhile, modern food retailers include small chains of small, medium, or large supermarket outlets, foreign and domestic cash & carry chains, domestic warehouse/club chains, and convenience stores. There is no specific description for food retailers based on literature, but it can be described using key characteristics compiled by Romo et al. (2009). These are described as: (1) having a “self-service” format, (2) chains following a roughly similar pattern of retailing, (3) having either broad or narrow selection of goods and procurement systems, (4) and a mix of wholesale and retail targeted towards families who want to buy in bulk. This segmentation between traditional and modern food retailing in

the Philippines will continue to develop, targeting both urban and rural areas increasingly. This is also seen in supermarkets that are transforming through supplier logistics. There is a growing trend where wholesalers are specializing in meeting specific needs of the supermarkets (Reardon et al., 2023). These changes are significantly affecting the business landscape.

In summary, the grocery sector in the Philippines has developed due to the liberalization of the Philippine economy. Through its transformation, it addressed the needs of the changing market and enhanced food accessibility. New retail formats emerged to cater to diverse income groups and locations. This shift highlights the dynamic nature of the sector and its impact on the population. However, micro to medium-sized grocery stores face barriers in their development such as limited access to technology and lack of skill and competencies of those involved in the business (Cammayo, 2020). Thus, it is critical to address these challenges to support their growth and ensure their contribution to the economy.

2.2 Efficient Consumer Response (ECR) Framework

2.2.1. Background

Organizations and enterprises implemented different frameworks to address the challenges in grocery operations and logistics. One of these is the Efficient Consumer Response (ECR) framework, a strategy developed for improving the grocery supply chain while quickly responding to customers’ needs (Helmold, 2023). Its goals are to streamline the supply chain, reduce costs, and improve control of inventory levels within the distribution channel, while simultaneously achieving customer satisfaction (Milićević, 2012). It is one of the buzzwords in management that came from other logistics developments such as just-in-

time (JIT) and quick response (QR), while having an electronic data interchange (EDI) and point-of-sale (EPOS) (Freitas et al., 2019). The Efficient Consumer Response Working Group was founded in 1992 by representatives of the grocery industry that aimed to assess the supply chain of grocery stores (Zvirgzdiņa et al., 2015). This group asked Kurt Salmon Associates, a consulting company, to evaluate the supplier-consumer-distributor value chain to identify improvements of the cost and service by using technology and developing better business practices (Reyes & Bhutta, 2005). Today, ECR remains useful in supply chain management and operational efficiency.

2.2 Efficient Consumer Response (ECR) Framework

2.2.2. Core components

The ECR framework comprises four major components: efficient replenishment, efficient store assortment at POS level, efficient promotion, and efficient product introduction (Zhang, 2023) (Figure 2). The aim of efficient replenishment is to efficiently ensure that the product exists at the right time, place, and quantity to optimize cost (Aastrup et al., 2008). Meanwhile, the other elements promote the management of product demand of customers (Martens & Dooley, 2010).

Expounding on the elements, Kurt Salmon Associates refers to efficient replenishment as a continuous replenishment program. The main objective is to tackle cost control (Zhang, 2023). It ensures that information within the supply chain is coordinated to provide a continuous supply of products (Surjanti et al., 2019). Moreover, inventory can be managed better with the minimal products in the warehouse, leading to reduced warehousing costs (Milićević, 2012).

Grocery stores have a large assortment size of products compared to non-food items, thus having large warehouses that are also costly (Wollenburg et al., 2017). To reduce expenses, ECR encourages efficient store assortment at POS level that can be achieved through a good relationship between distributors, suppliers, and retailers (Zvirgzdiņa et al., 2015). Optimizing product assortment and allocation can also increase sales by lessening stock outs (Freitas, 2019). This also improves customer satisfaction by meeting the needs of the consumer and gain higher profits from repeat orders (Zvirgzdiņa et al., 2015). With customers at the center of the business, efficient store assortment can be used as a powerful guide for the business.

Presenting products to consumers is an important aspect of grocery stores. This includes product promotion as a strategic advantage that has influence buying habits (Dueñas-Caparas, 2005). Efficient promotion is another important component of ECR that advocates for advertising products at low costs (Zhang, 2023). It aims to introduce trade promotions that encourage retailers to



Figure 2. Efficient Consumer Response Framework coined by Kurt Salmon Associates in 1993

2.2 Efficient Consumer Response (ECR) Framework

sell more products to their consumers, instead of increasing the number of products they buy from the manufacturers (Zvirgzdiņa et al., 2015). With efficient promotion, consumers can learn about the products without the business needing to expend.

Lastly, methods to introduce products to customers are valuable to both consumers and businesses. As such, ECR promotes efficient product introduction. This component aims to develop and introduce new products with minimal costs (Freitas et al., 2019). Joint planning of all phases of this activity, such as position on the shelves and impact of support plan, should be done together with the customers. Additionally, businesses can employ robust sales forecasting that creates reviews of major categories that identify poor performance (Liniņa & Zvirgzdiņa, 2017). From this, efficient product introduction can be used as a guide to add value to the business and its stakeholders.

2.2.3 Benefits of ECR

Technology is an essential part of the success of ECR implementation. Initiatives include category management, electronic data interchange, and enabling technologies (Reyes & Bhutta, 2005). Category management aims to manage activities concerned with the demand side of merchandise flow (Liniņa & Zvirgzdiņa, 2017). Meanwhile, electronic data interchange involves exchanging documents between different parties to coordinate data with each other (Okano & Fernandes, 2019). This is related to the enabling technologies initiative where technologies are used to allow interaction between stakeholders to coordinate activities (Seghezzi et al., 2022). Research suggests that investing in information technology leads to shorter cash conversion cycles, wherein resources are quickly converted to cash from selling products (Martens

& Dooley, 2010). These technology-based initiatives help in efficient operational management.

Expounding on this, the implementation of these initiatives is beneficial to enterprises as seen in a study by Martens and Dooley (2010). The research reappraised the performance of grocery stores which adopted ECR as a strategy. It was found that ECR adopters had higher profitability levels compared to non-adopters and had lower cost of goods sold because of economies of scale (Martens & Dooley, 2010). Additionally, the study found that the use of electronic data interchange (EDI) and information technologies eliminates paper-based information, thus reducing time delays and errors. Using these strategies that provide an assortment of goods that meet the needs of the customers are advantageous to the enterprise by gaining larger profits, having repeat customers, and avoiding stock outs (Zhang, 2023).

Leading Philippine food retailers apply ECR techniques for inventory and sales management, aside from the use of modern technologies (Romo et al., 2009). With this, the utilization of ECR techniques is valuable in grocery stores that are MSMEs in the Philippines. This increases productivity through having stable sales volume (Kotzab, 2009), thereby combating the low productivity problems of MSMEs compared to large enterprises. Salmon (1993) also indicated that the combination of four ECR strategies leads to consumer satisfaction (as cited by Kotzab, 1999). Firms create value when customer demands are achieved and synchronized with what the firm can supply (Helmold, 2023). Thus, the use of ECR is beneficial to enterprises since customer service and satisfaction are the key priorities of these enterprises over the other key performance indicators (KPIs) (Altamash & Muzaffar, 2023).

2.3 Order Fulfillment Process

In achieving the objectives of ECR, the order fulfillment process is important to assess because it significantly affects the ability of the enterprise to deliver products efficiently. Customer orders trigger the supply chain processes that are carried out through activities from different functions within a business (Amer & Luong, 2012). The order fulfillment process occurs from that trigger until the customer receives the order and is executed by different units in the business that are interconnected among tasks and resources (Lin & Shaw, 1998). This process is a collection of activities that manage an order from its initiative to its completion, while meeting the requirement and expectations of the customer (Amer & Luong, 2012). This plays a crucial role in meeting strategic goals and satisfying customer needs while enhancing supply chain performance across the chain (Amer & Luong, 2012).

With the order fulfillment process as a key component to achieve the core objectives of ECR (McLaughlin et al., 1998), customer satisfaction is essential to business growth and is also associated with operational performance. Delivery, accuracy, and cost are factors important to meeting customer expectations (Shapiro et al., 2004). For businesses, this can be measured through the following metrics: on time delivery, completeness,

damage-free, and correct invoice issuance (Amer & Luong, 2012). These metrics are affected by collaboration between the supply chain members, thus integration between the different business units is crucial.

With order fulfillment as a factor in the success of ECR implementation, technologies play a role in improving operations. Employing technologies facilitate streamlining, automation, and standardization in the order fulfillment process (McLaughlin et al., 1998). Technology has also shaped retailing, such as the development of bar coding and electronic scanning of products (Dueñas-Caparas, 2005). Additionally, information sharing using the electronic data interchange reduces uncertainties within the supply chain and determines the efficiency of coordinating within the business entities (Lin & Shaw, 1998). This results in actors within the supply chain operations having access to accurate and timely information. The efficiency in coordinating between the business units leads to better alignment with customer demand and a more responsive supply chain (Lin & Shaw, 1998). Overall, using technology in the order fulfillment process significantly contributes to achieving ECR goals.

chapter three

03

Company Research

3.0

This chapter describes the methodology and procedure to gather data. This is a discussion of the design methods and tools used in the focus group sessions to understand and gain insights on the case study as well as the findings and results from this phase.

In this chapter:

3.1 Business Model Canvas

3.2 SWOT Analysis

3.3 Value Exchange Map

3.4 Top Management Interview

3.5 Customer Journey Map

3.6 Customer Interviews

3.7 Order Fulfillment Process Mapping

3.7.1 Retail merchandising process
for messaging apps

3.1 Business Model Canvas

The first divergent step of the design process involves discovering different possibilities and insights by engaging with different users and stakeholders. In this phase of the project, the design tools and methods were used to understand the context aside from the literature review.

3.1 Business Model Canvas

The Business Model Canvas is a tool used to provide a one-page snapshot of the different activities of a business. Crafted by Osterwalder and Pigneur (2010), the canvas has nine components that describe how an enterprise creates and delivers value for its customers using resources with its key partners. This provides clear communication of the company's operations and strategy to align within the organization (Osterwalder & Pigneur, 2010). Following the literature review, the Business Model Canvas was used as a tool to visualize the components of the case company. Its nine building blocks provide a snapshot of the values that the enterprise offers, its customers, and its finances. This also helped in realigning the team to the present business model of the enterprise.

For this project, a focus group discussion that lasted for an hour was organized to understand the company and explore preliminary insights from the top management. 11 personnel participated in the discussion who were chosen based on their position and involvement with the business in consultation with the Chief Operating Officer (COO). These were part of the top management, mainly managers, supervisors, and assistant supervisors. The focus group discussion was conducted with the participants in a conference room, while remotely communicating and recording with a videoconferencing application. A brief slide deck was prepared and presented to provide an overview of the elements, completing each component sequentially. The Business Model Canvas was written on A1-sized paper affixed to a wall in the conference room, with an assigned point person to record the responses onto the canvas. A printed-out version on A4-sized paper was also distributed with a guide of the canvas's elements. Simultaneously, written notes were captured to record significant information.

Figure 3 shows the accomplished BMC that was digitized for presentation purposes. From the

3.1 Business Model Canvas

session, it was inferred that the current nature of the enterprise involves several elements discussed below.

The strategic approach of Top Trust Mart is to provide personalized customer service through different initiatives. Their unique selling points include offering a complete range of products at affordable prices and an accessible location where customers do not need to travel far to reach the store. According to the COO, customers can easily visit the store whenever they need without riding public transport for a long time. This was also mentioned in an interview with one of the customers (see section 3.6) who mentioned that the location is convenient because the store is walking distance from him. The availability of parking space also adds to the convenience of the shopping experience.

The main customers of Top Trust Mart are sari-sari store owners and household shoppers, who shop for everyday items for their homes. Nearby schools also visit the store for school supplies and school canteen ingredients as well as local government units and hospitals near the vicinity. Aside from

this, peddlers also purchase from the grocery store. Common in the Philippines, peddlers are individuals who sell merchandise while walking and "rolling stores" who are vendors pushing carts with the products. It is also interesting to point out that their target market is low to middle-income earners.

In the Business Model Canvas, customer relationships indicate the interactions a company has with its customers (Osterwalder & Pigneur, 2010). These are important in having a positive customer experience therefore creating customer satisfaction and loyalty. With personalized customer service as the main strategy, Top Trust Mart has different initiatives to execute this. An example is greeting customers with their first name as they enter the store for the walk-in channel, especially for frequent and loyal shoppers. Additionally, promos and discounts are also offered exclusively to customer card holders. The customer card is a membership card used by customers to gather points and avail of promos and discounts. Top Trust Mart also uses this card to gather information about their customers in the point-of-sales (POS) system such as their birthday. Upon check out, the POS system alerts the cashier who greets the customer

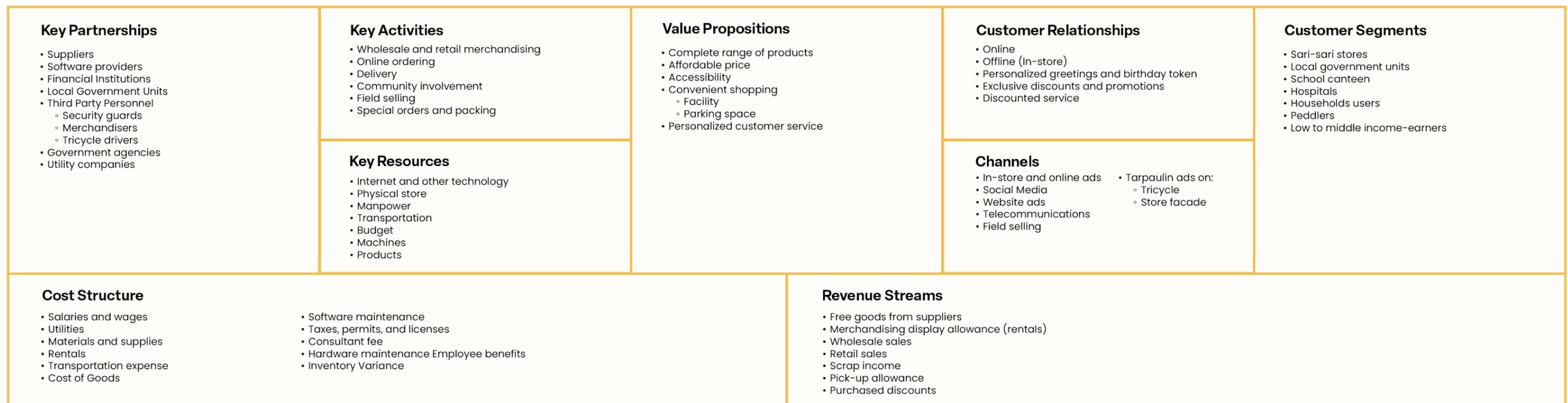


Figure 3. Business Model of Top Trust Mart

3.1 Business Model Canvas

and gives a small token for their birthday. Aside from this, free delivery is also exclusively offered to customer card holders as a discounted service.

Top Trust Mart reaches customers through different channels mainly through in-store and online. Its physical store delivers the value propositions it aims to offer, and with the trend of online ordering after the pandemic, it started offering its products online through its website or social media messaging applications like Facebook Messenger and Viber. These applications are mostly used in the Philippines because of its accessibility and the low data it requires to function. Aside from this, telecommunications or phone calls are used by Top Trust Mart where they make routine calls to customers who have not ordered for a long time. The enterprise also does field selling where assigned employees visit chosen sari-sari stores within the vicinity who are not yet customers to increase awareness and encourage these small entrepreneurs to purchase from Top Trust Mart. Awareness is also raised through display advertisements placed in-store and on the website. Ads printed on tarpaulins are attached on tricycles, a form of public transport in the Philippines, who are business partners of Top Trust Mart. Through these different channels, the company reaches customer segments, both existing and future customers.

In Top Trust Mart, the key activity is the wholesale and retail merchandising through in-store, online, and field selling. Discussed under channels, field selling is also considered as a key activity since the company sells merchandise through this. Additionally, special orders and special packing are offered by the company. These are customer orders that are not displayed in-store or those that require to be packed in a certain way, such as for Christmas giveaways. Moreover, community involvement is considered as a key activity like BrigadaEskwela, where employees volunteer in public schools to prepare the institutions for the opening of classes. The company raises customer awareness through this while helping the community.

Key partnerships between suppliers and other partners are essential for a business to operate (Osterwalder & Pigneur, 2010). In Top Trust Mart,

suppliers are key partners since they supply the products that the enterprise sells. Software providers are also considered as key partners for the point-of-sales system, human resources and payroll automation, and e-commerce platform. Aside from this, the business employs third party personnel from external agencies, such as security guards and merchandisers, and utility companies, such as Meralco for electricity and Maynilad for water supply. Government agencies are also considered partners like the Bureau of Internal Revenue (BIR) for taxes and Department of Trade and Industry (DTI) for approval of the promotional activities.

Key resources are needed to execute the key activities and generate revenue (Osterwalder & Pigneur, 2010). As with any other enterprise, Top Trust Mart requires technology to operate such as the internet and computers. In addition, their key resources also include the physical store, where they execute their activities, as well as their manpower, who are their employees. Another key resource is the merchandise and products they offer that is the main source of their revenue. These resources enable the company to perform its operations and activities.

Meanwhile, the bulk of the cost structure of Top Trust Mart is its salaries and wages for its employees. Both fixed costs, such as rentals and taxes, and variable costs, like cost of goods sold, were identified. It is also important to point out that the participants during the workshop took a long time to discuss the cost structure compared to the other elements, possibly due to the lack of awareness. Most of the costs were identified by the assistant supervisor for Finance.

Lastly, revenue streams are a means of how the business generates income from its customers (Osterwalder & Pigneur, 2010). For Top Trust Mart, their main revenue model is a combination of selling products to individual consumers and offering discounted rates for customers with sari-sari stores. The company earns from both wholesale and retail transactions, allowing them to simultaneously reach different markets while utilizing shared resources.

3.2 SWOT Analysis

Another strategic planning tool to learn more about the project context is SWOT analysis. This stands for Strengths, Weaknesses, Opportunities, and Threats (Gurel & Tat, 2017). The use of this tool assesses positive and negative internal and external attributes and resources that could affect the performance of the business (Gurel & Tat, 2017). Analysis of the organization using this framework is beneficial to help in evaluating its current health, thus, supports decision-making and strategic planning. It is relevant for the project to know what facets need to be maintained and those that need to be improved. This tool was used in the second part of the focus group discussion with the 11 participants, immediately after the Business Model Canvas was completed. This analysis was conducted similar to how the Canvas was accomplished. A slide deck, an enlarged SWOT analysis template, and printed A4 copies were also prepared. The activity was also facilitated online and recorded through a videoconferencing application, while notes were documented. Figure 4 shows the accomplished SWOT analysis framework.

In this framework, strengths are internal factors that positively affect a business (Gurel & Tat, 2017). For

Top Trust Mart, the top management was optimistic in identifying these factors. For them, the manpower was their greatest asset because of their positive characteristics. Additionally, several equipment was identified as strengths of the business such as the generator, bank terminals, and a price checker. Having a coins weighing scale was also seen as a positive characteristic of the business. In the project context, one of their main customer segments is sari-sari store owners, who offer merchandise in very small quantities. Thus, the denomination of their income is in coins instead of bills. These coins can be changed to a coin slip in the customer service area before shopping. This coin slip contains a barcode that shows information in the system when scanned including the customer's name, date and time of coins to coin slip exchange, and total amount of coins in Philippine Pesos. This coin slip is brought by the customers to the selling area instead of carrying all the coins while they shop. In the checkout counter, the barcode is scanned by the cashier and the total amount can be used to pay for the groceries. This provides convenience for the customers, adding to the overall shopping experience.

<ul style="list-style-type: none"> • Flexible manpower • Teamwork • Sense of ownership • Dedicated employee • Knowledgeable • Brisk • Multi-tasker • Positive thinker • Strategic • Punctual employees (some) 	<ul style="list-style-type: none"> • Staff has initiative • Honest and trustworthy • Good customer service • Updated software and hardware • Equipped with: jack lift, generator, bank terminals, TVs Vehicles • Bill counter • Price checker • Weighing scale for coins 	<ul style="list-style-type: none"> • Prone to human error • Slow pace • Insubordination • Attendance and punctuality of employees in operations department • Store ventilation • Stocks availability • Bad order due to pests • Machine downtime
<ul style="list-style-type: none"> • Suppliers offering • Geographical locations • Online Ordering 	<ul style="list-style-type: none"> • Consignment • Free delivery without minimum purchase • Suppliers marketing strategy • Competitors expansion • More attractive competitors' promo • Rolling stores 	

Figure 4. SWOT Analysis of Top Trust Mart

3.2 SWOT Analysis

On the other hand, weaknesses are internal factors that negatively affect the business and hinder performance (Gurel & Tat, 2017). The ones identified by the top management mostly relate to the operations services department and its activities. It was determined that human error and the slow pace of cashiers were an issue caused by lack of focus and having conversations with their assigned baggers. Punctuality and attendance were also an issue for the employees under the operations services department. Consequently, the ventilation of the physical store received a lot of complaints from customers and employees. Machine downtime also affects the store operations negatively, especially when there is disruption to the internet connection. Having food items in the grocery store, pests are common in-store and in the warehouse, therefore, damaging products and producing bad orders. Also, it is important to note that stock availability has been identified as a point of concern because the value proposition mentioned in the Business Model Canvas identification was having a complete range of products. This is alarming because they are not able to deliver the value that they aim to provide. Ensuring stock availability is very important to customers and is thus advantageous to the business (Reyes & Bhutta, 2005). Therefore, it is imperative to implement initiatives to improve stock control and address the other concerns or weaknesses.

Opportunities are described as external factors that the enterprise can make use of to its advantage (Gurel & Tat, 2017). Top Trust Mart identifies three main opportunities for the business. Firstly, prices of the merchandise are negotiated with the suppliers. These key partners sometimes offer discounts to the enterprise, therefore adding to the revenue streams. The supplier discounts also affect the price of the products offered to the customers. Additionally, its central location serves as an opportunity because it is also located near other establishments like banks, schools, and hospitals. Aside from this, the booming emergence of online ordering in grocery stores is an external factor that the business adopted. Its website was built just after the local restrictions for the COVID-19 pandemic loosened. The website now serves as a platform

for customers to shop and order online. With these opportunities available, the business can strategize to better improve their operations.

Meanwhile, threats are external factors that have negative impact on the enterprise (Gurel & Tat, 2017). Most of the identified threats involve competitors of Top Trust Mart. Competitors have been consigning customers to sell their products. Similarly, suppliers have penetrated their target segments and have been directly reaching out to customers, thus, being able to purchase products at an even lower price. Some competitors have also improved their offerings that customers find attractive like promos and discounts. Another is free delivery without a minimum purchase, unlike Top Trust Mart who requires a minimum purchase order of at least 150.00 euros (Php 10,000.00) to deliver and is only available for customer card holders. Consequently, some competitors are expanding rapidly compared to the enterprise such as Competitor X. Its number of stores has increased since the COVID-19 pandemic and is aggressively affecting the retail landscape in the region. According to the participants, Competitor X cater mostly to household shoppers, who are also the target of sari-sari store owners. These micro-sized enterprises lose their customers to Competitor X, creating a domino effect that also affects Top Trust Mart. Some rolling stores and peddlers are also considered as direct competitors, despite some being part of customer segments. Since these factors are external and are difficult to control internally, efforts and initiatives can instead be implemented to address and leverage from these competitors.

The last phase of the workshop involved prioritizing the issues that the top management should address. This was done through voting by the participants, where each was tasked to choose their top three topics. With this, the SWOT analysis activity assessed the present health of the enterprise and created an overview of both positive and negative factors affecting the store.

3.3 Value Exchange Map

A business comprises of a system where value is exchanged between stakeholders. Using a value exchange map, this flow of both tangible and intangible values is illustrated and visualized. This mapping is beneficial for business and design in understanding the needs of the stakeholders involved in the network (Albadvi & Hosseini, 2011; Stickdorn et al., 2018). Specifically in retail, a value exchange map shows the relationship between the business, its customers, suppliers, and other partners that affects the overall transactions within the said business.

The value exchange map comprises of different components. A key element is stakeholders who are groups or organizations that play a role in the network. These deliver and capture value within the system (Osterwalder, 2014). Meanwhile, value propositions are tangible or intangible components that a stakeholder offers to each other (Stickdorn et al., 2018). In the context of the project, tangible values are either products or services, while examples of intangible values are employment opportunities and information support from the government agencies. Another component of

the value exchange map is value flows that are the direction and nature of the value propositions offered between stakeholders (Albadvi & Hosseini, 2011). With the components of the map, the value propositions and how they are delivered and captured in the system are visualized to help in understanding the network and its interactions.

For the project, a value exchange mapping (Figure 5) was conducted to understand the value dynamics in the grocery store. This provided information on the areas where improvements can be made to enhance efficiency. A 45-minute mapping was accomplished with the Chief Operating Officer and Operations Manager to trace the flow of values within the system. It was conducted and recorded online through a videoconferencing application, while researcher notes were also documented. A link to the Miro board was shared with the officer and manager where they completed the map together.

It is recognizable that customers are key stakeholders. These are the sari-sari store owners, household shoppers, peddlers/rolling stores, and

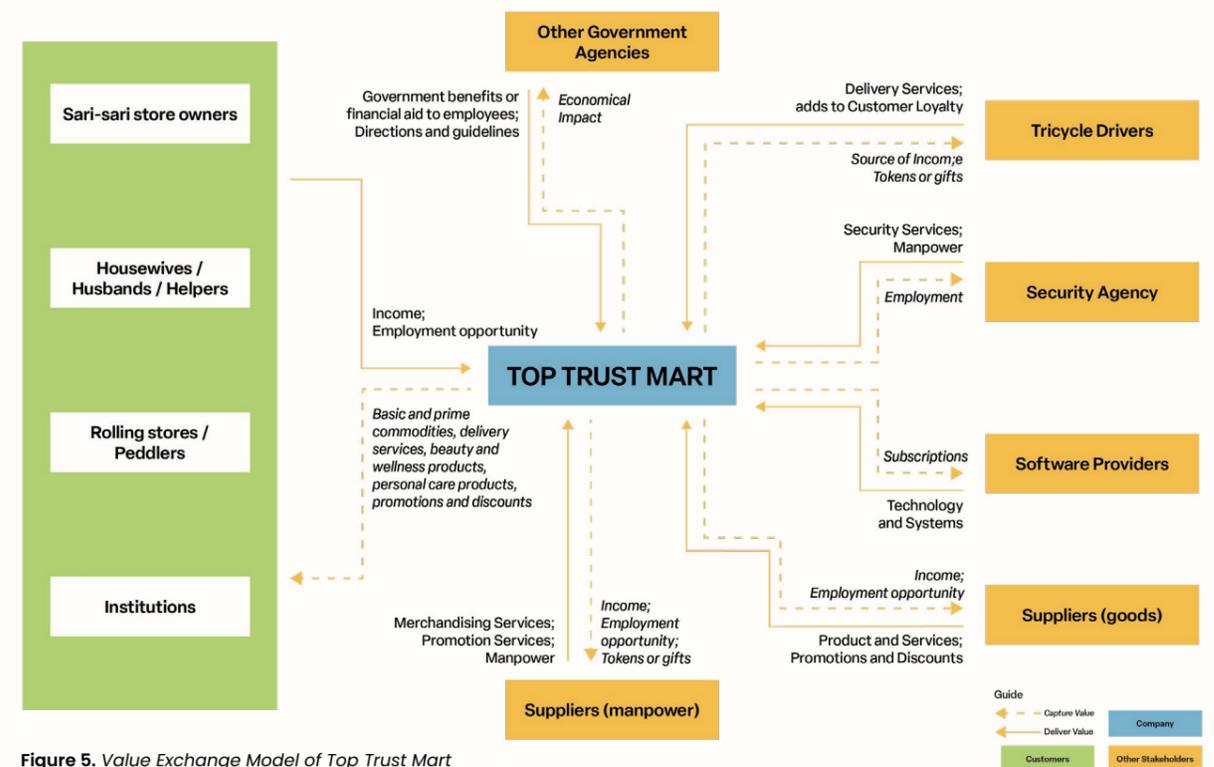


Figure 5. Value Exchange Model of Top Trust Mart

3.3 Value Exchange Map

institutions such as hospitals and schools. Other stakeholders involved are suppliers of goods and merchandise, third party agencies for manpower, software providers, banks or financial institutions, tricycle drivers, and government agencies.

A key value in the network is money, commonly provided by the customer and given to Top Trust Mart in exchange for its products and services. Money is also given to the suppliers of goods and merchandise in exchange for the products that Top Trust Mart sells. Third party agencies also receive money in exchange for their manpower, such as security guards and external merchandisers. For software providers, they supply the technologies and systems for subscription fees. Examples of these technologies and systems are internet connection, accounting and human resource software, and the point-of-sales (POS) system. Additionally, banks or financial institutions interact with the enterprise by securing their money, providing loans, and offering other services like online banking. Tricycle drivers also play a significant role in the context. They receive income and tokens or gifts from their partnership with the enterprise while they offer their delivery services to the customers. Lastly, government agencies, such as the Bureau of Internal Revenue and Department of Trade and Industry, provide government benefits and financial assistance to the employees as well as legal guidance for the business while the business pays its taxes duly.

Insights can be derived from this analysis. This map displays the complexity of the wholesale and retail business since there are several stakeholders at play. Customers are the main stakeholders that deliver value to the enterprise. Comparatively, other stakeholders provide their value to the enterprise through products or services such as merchandise and manpower. The map also highlights the importance of money in the business that circulates around the transactions. This affirms the cost structure from the Business Model Canvas.

Analyzing both the BMC and the Value Exchange Map together, it can be inferred that the following costs are involved outside the company and within the partner relationships: software maintenance, taxes and licenses, utilities and consultant fees. Meanwhile, the other costs such as salaries, cost of goods, and employee benefits are transacted within the company mostly through the employees or its merchandising. The value exchange map serves as a springboard for strategic product designing through the overview of the interactions between the stakeholders.

3.4 Top Management Interview

An exploration of the store operations was conducted through an online semi-structured interview with the Operations Manager and the Chief Operating Officer following the Value Exchange Mapping. The interview lasted for 30 minutes and was video recorded. With the objective of learning about the main problems in the specific area, it was discovered that the differences between the ideas and principles of each individual sometimes affect the performance of the employees. Misunderstandings with each other often arise, resulting in errors and delays.

Additionally, concerns about operational processes were also raised because of the lack of monitoring, auditing, and documentation in these processes. With the fast-paced environment, instances occur that the top management fail to supervise and oversee if the set processes are followed by the employees. This also results in communication issues wherein employees are not well-coordinated with each other. For instance, orders from the online channel are sometimes misplaced or lined up on the wrong counter and employees need to locate the order around the store. Since the context comprises of different roles, coordination and alignment are important in the success of the operations.

It was also acknowledged that the processes may not be entirely value-adding and could even increase costs. These barriers in operations hinder efficiency in the enterprise. The lack of communication and deficiencies in process management cause challenges in streamlining operations.

“...the problem is that not all employees are aware of the ongoing processes. Additionally, finding processes can be slow because they are sometimes not properly filed or compiled. ”

“... ongoing ang processes so ang problema ay di aware ang lahat ng empleyado. Pangalawa, pag may process, medyo matagal hanapin kasi kung minsan di naka kabinet or nakacompile ng maayos.”

-Chief Operating Officer

“The employees do follow but sometimes deviations occur. This is because there is no monitoring of their actions...”

“Yung mga tao ay susunod talaga pero pag di mamonitor with regards to the consistency ng kanilang ginagawa, minsan may tumataliwas talaga. Yung monitoring at auditing din ng processes...”

- Operations Manager

3.5 Customer Journey Map

Customers are key stakeholders in a business mainly because they provide revenue in exchange for its products or services. Thus, a customer journey map was utilized in the project to trace the customer's experience when interacting with the business. Using this framework is beneficial for both the customer and the business as it improves the customer experience and enhances their loyalty to the enterprise (Lemon & Verhoef, 2016). The map traces the journey of the customer in stages, namely, awareness, consideration, purchase, post-purchase, and loyalty & advocacy. Additionally, its components include the activities of the customer, their goals in the specific stage, touchpoints, and emotions. Looking at the back end of the business, the following elements aligned in each stage of the customer experience are the goal of the business, key performance indicators (KPIs), activities within the business, the responsible department or person, and the technology needed in the stage.

Appendix 6 exhibits the accomplished customer journey map with the Chief Operating Officer and the Operations Manager. The mapping was done in another 1-hour session online, utilizing a Miro board that was shared with both the executives. The session was recorded through a videoconferencing application while researcher notes were also documented.

First stage: Awareness

The first stage in a customer journey map is when customers first become aware of the business, its products, or services. In the project's context, a customer learns about the business through advertising in social media or through field selling as mentioned previously. Some customers also hear about them from other customers and friends (Word of Mouth), see the uniform of the employees on the street or one of its delivery vans, and even notice a plastic bag with the logo of the business.

At this point, the customer does not have a specific goal, thus, their emotion is usually curious and wandering. Meanwhile, the business aims to increase awareness and expand its customer base that is tracked based on the transaction number. Presently, Top Trust Mart does not undergo any practice to trace the traffic and impressions from these touchpoints. To increase awareness, the business creates ads such as for social media and those displayed in-store. Field selling is also done to widen the customer base as well as joining community activities such as the BrigadaEskwela or even sponsoring local fiesta (a local occasion in the community where a saint's day is celebrated). The departments responsible for this are marketing and operations using mobile, tablets, computers, social media platforms, and emails.

Second stage: Consideration

The next stage after awareness is the consideration stage where customers assess which products or services of businesses best create value for them that satisfies their needs. In this stage, the customer looks at different factors such as the distance from their residence, the facilities of the store, delivery timeliness, different modes of delivery and payment, customer service, availability of promos and discounts, and price of goods. The customer at this stage aims to find the best option to satisfy their needs in exchange for the most minimal cost, making them both confused and excited to shop and try. The main touchpoints for this are ads that also talk about their promos. At the back-end side, the goal of the business is for the customer to consider and know more about them. To track this, Top Trust Mart looks at customer loyalty card information and data from the field selling. The business also offers special promos and discounts exclusively for new customers during this phase. The department involved in this is marketing and customer service through technology.

3.5 Customer Journey Map

Third stage: Purchase

The purchase stage of the customer journey is when the customer chooses to buy the products or service and engages with the business either in the physical store or online. In this stage, the goal of the customers is to avail all the products they need and have fast and accurate transactions while expecting experiencing an excellent customer service. The customer looks forward to engaging with the business and has some expectations. On the side of the business, the goal is to satisfy the needs of the customer while reducing and managing costs and expenses. Simultaneously, it aims to run efficient and effective internal processes during this interaction. To measure and track the interactions, reports from the customer survey and concern form are analyzed. Information from the customer loyalty card, financial reports, and transaction reports are also examined. Mostly, operations are involved in this stage as they are involved in both backend and front end of the transactions. Different types of technology are involved in this phase including the POS system, the website, and the internet.

Fourth stage: Post purchase

The post-purchase stage involves the activities after the purchase of the product. Customers of Top Trust Mart may choose either to make use of the delivery service (with a minimum purchase) or have it picked up in-store. At this stage, the goal of the customer is to experience excellent customer service from the delivery team and receive the products in a timely and accurate manner. The customer also requires that the products are of good quality, especially when they choose the delivery option. This means that grocery items should not be broken, defective, or expired. Touchpoints for this stage are mobile and messaging applications. The customer then feels either satisfied or dissatisfied

with the service. For Top Trust Mart, their goals are to be able to deliver and efficiently manage costs and expenses. These are tracked in the customer concern form reports and financial reports. The responsibility of being able to reach their goals is the operations department. The types of technology needed for this are transportation in and mobile to communicate with the customers.

Fifth stage: Loyalty and advocacy

Lastly, the last stage of the customer experience is loyalty and advocacy wherein customers who are satisfied with the product or service of a business repeat their purchase and promote the brand. In the project, customers share their experiences with other people either through word of mouth or through social media. For customers with a positive experience, they may also purchase again in the store and earn more customer points on their customer card. This allows them to avail discounts and promotions. In this phase, customers are either satisfied or dissatisfied and can weigh the pros and cons of buying from the business. On the side of the business, the goal is for their customers to repeatedly purchase and order from them. They also strive for positive feedback for customers to share with other people. Loyalty and advocacy are tracked through information from the loyalty card and reports of online transactions. The business also strengthens relationships with the customer through the customer loyalty program with the customer card and other gifts and freebies. The business also initiates repeat transactions by contacting customers by phone or online if they have not purchased again or have been inactive customers for a long time. This is headed by the operations where the customer service department are involved.

3.6 Customer Interviews

Since the customer journey map was accomplished with the Chief Operating Officer and the Operations Manager, two customer interviews were conducted to validate this. Each of these lasted for 30 minutes and were executed online. A videoconferencing application was used to gather information from Customer A and was also recorded through the app. Meanwhile, Customer B was interviewed using Facebook Messenger, since he has limited experience with technology. Only researcher notes were documented for this session. The interview contacts were given by the management. They were chosen based on the criteria of being a regular customer who engages both in wholesale and retail transactions.

Customer A is a 42-year old female who shops regularly. She purchases items for her personal household needs and for her two children. She also buys merchandise for her own sari-sari store that she started seven years ago. She is a loyal customer of Top Trust Mart and chooses them over other competitors mainly because of price differentiation. She used to shop from the competitors before Top Trust Mart and discovered it through word of mouth, specifically her mother. She mentioned that she used to do the shopping in the physical store but prefers to do it online since the Coronavirus pandemic in 2020. However, she is struggling with using the website because she finds the interface confusing. According to her, the labeling and photos look similar. In the end, she prefers to use the Facebook Messenger touchpoint because she just sends a list of the grocery items without having the need to go to the website and shop for an item one by one. Her husband also created an Excel spreadsheet for her which automatically consolidates the orders per floor. She uses this Excel as a guide and just copy pastes the list to the Facebook Messenger chat. According to her, delivery sometimes takes three to four days after ordering because of the amount of deliveries that the enterprise fulfills in a day. Despite this, she believes that shopping at Top Trust Mart is convenient because of their fast response time.

Meanwhile, Customer B is a 63-year old who has been running his own sari-sari store with his wife for 20 years now. He also engages with wholesale and retail transactions with Top Trust Mart for his household and own store. Initially, he became familiar with the business because he would pass by it on the way home. For the first three years of his own store, he had been buying from one of the competitors until deciding to be a loyal customer of Top Trust Mart when he established a good relationship with the owners. He believes that the store is being run well and that the employees are under good management.

He learned about the online channels through word of mouth. He prefers to shop through Facebook Messenger, instead of using the website, because it is more convenient. However, one of the problems he encountered when shopping in the store was the delayed delivery times. Another problem is that there is sometimes inaccuracy in the items received, for example, receiving another brand instead of the one he asked for.

“I tried to use their dotcom website, but now I use Facebook Messenger again. The website is confusing... I like using FB messenger better because picking and clicking each item in the dotcom website is too tedious.”

“Tinry ko gamitin yung dotcom website nila, pero ngayon balik na ulit ako sa Facebook Messenger. Nakakalito kasi yung website... Mas gusto ko gamitin ang FB Messenger kasi masyadong matrabaho yung pagpili at pag-click ng bawat item sa website.”

- Customer A

“I asked if they could transfer my order to the other site. It took too long and I wasn't sure why... It is more convenient to shop online. I don't like the website. I order everyday in Facebook Messenger...”

“Nagtanong ako kung pwede nilang i-transfer yung order ko sa ibang site. Ang tagal bago natapos at di ko alam kung bakit... Mas convenient bumili online. Di ko gusto yung website. Araw-araw akong umuorder sa Facebook Messenger...”

- Customer B

3.7 Order Fulfillment Mapping

Several processes are involved in grocery store merchandising. Zooming in the operations of a business, it is what strongly drives long-term customer loyalty (Kumar et al., 2011). One of its core activities is order fulfillment, a complex process with several other activities, implemented by different entities, and interdependent among other objectives, resources, and stakeholders in the process (Zhang et al., 2009). Triggered by the customer's order, the whole supply chain process starts until the delivery of finished goods (Laurikainen, 2020). Orders can be considered perfect when they are delivered on time, complete, unbroken, and with a correct invoice (Amer & Luong, 2012). Having perfect orders leads to benefits for the business such as having less inventory, reduced stock outs, and better profit margins (Amer & Luong, 2012).

A way to assess if orders are fulfilled perfectly can be through service blueprints commonly used by service providers for managing and designing service processes (Ganvir & Kalita, 2021). This is an effective tool to assess a process because it provides a comprehensive snapshot of the components and serves as an overview to visually grasp the system (Wang et al., 2017). In this project, this was used as an inspiration to learn and understand the existing order fulfillment process, mainly focusing on frontstage (visible) actions and backstage (invisible) actions.

The order fulfillment process was mapped out through blueprinting to understand the system (Wang et al., 2017) (Appendix 8). The participants in the mapping were the staff directly involved in the operations including the Chief Operating Officer, Operations Manager, supervisors for retail merchandising, online, wholesale, and rice area. It was facilitated virtually with the participants in the same conference room, except for the Chief Operating Officer who joined online. The session lasted for an hour and 30 minutes and was recorded through the videoconferencing application. Miro was utilized as a virtual platform to conduct the activity. The following paragraphs describe the findings.

3.7.1. Retail merchandising process for messaging apps

Existing customers reach the enterprise through different channels including messaging applications (apps), namely through Facebook messenger and Viber. These two are the most accessible to the customers of Top Trust Mart because its usage incurs no costs. A description of the blueprinting can be seen below.

Once the customer messages the enterprise through the app, they receive a message where the following details are asked for: name, items, quantity of items, description in grams, mode of payment, customer card number (if available). The order taker reviews this message and prints an order slip if the details are clear. Then, the order taker logs the orders in the “orders spreadsheet” and places the printed order slip in the “For Pick” shelf in the office.

A picker obtains an order slip from the “For Pick” shelf and informs the order taker to track the picker's name and the time start in the “orders spreadsheet”. The picker also writes their name and time start on the printed order slip. The items are then picked from the shelves and crossed out from the list. These items are placed in a basket where the customer's name is written on paper and attached to it. This basket is lined up at the counter for check out and the order slip is placed in the “For Scan” shelf. There are two cashiers involved in the process, one in charge of scanning, and the other in charge of payments, who is involved later on in the process. The first cashier obtains the order slip from the “For scan” shelf and picks out the basket from the line-up. The customer card is input in the system and each item is scanned. Simultaneously, the bagger puts the merchandise in a box and afterwards puts the name of the customer and the location of the counter on that box. The scanning cashier double checks if the quantity in the point-of-sales (POS) system is the same as the one in the order slip. If they are aligned, the assistant supervisor is asked for the authorization of credit sales and prints the receipt. Then, the cashier fills

3.7 Order Fulfillment Mapping

up a retail delivery form and indicates if the box is for delivery or for pick-up by the customer. This retail delivery form is handed to the bagger and brings this to the retail delivery area where all the boxes are. The assistant supervisor checks if the number of boxes is the same in the retail delivery form and signs the form that everything is in order. This assistant supervisor logs the customer's name and time of checking in a physical logbook. Then the retail delivery form is put on the "For Send Total" shelf. The order taker obtains the retail delivery form from the "For Send Total" shelf and sends the total amount to be paid through the messaging app. The order taker inputs the total amount, date, and mode of payment on the "orders spreadsheet". Then, the form is put on the "For Payment" shelf. The customer can then pay through online bank transfer or can walk-in the store.

If the customer is paying through walk-in and wants to pick-up the item, the cashier in charge of the payment obtains the retail delivery form and receipt from the shelf and confirms the mode of payment to the customer. The customer pays either through cash, debit card, credit card, e-wallet, or bank deposit. Then, the cashier stamps the receipt as paid after the payment has been made. This cashier then logs the status of payment on the "payments spreadsheet" and hands over the receipt to the customer while giving the retail delivery form to the releasing bagger. The releasing bagger hands over the retail delivery form to the releasing checker who also checks the receipt of the customer. Once the releasing checker confirms the receipt and retail delivery form, the releasing bagger gives the boxed items to the customer.

Meanwhile, if the customer wants to pay through bank transfer and wants to have the merchandise delivered to an address, the cashier in charge of payments records the customer's name and the amount on the "payments spreadsheet" and places the receipt and form on the "For Transfer" shelf.

The Wholesale Order Taker compiles the delivery forms and records them in a log book. The Retail Order Taker checks the bags or boxes of merchandise versus the delivery form. The picker puts the bags or boxes in the truck for the truck driver to transport it to the warehouse area for deliveries. The assistant supervisor checks the bags or boxes based on the delivery form and hands it over to the encoder to record the receipts. After recording, the wholesale Order Taker receives the receipts and delivery form and puts it in the line-up list for delivery the next day. The wholesale Order Taker also checks the mode of payment for delivery, either walk-in, card-on, or cash-on. This is another issue in the process since the customer has already mentioned this when they availed of the delivery service in the customer service area previously. After the wholesale Order Taker has confirmed the mode of payment, a Delivery Receipt Form and an Accounts Receivable Form are made. The preferred delivery time of the customer is also written on the remarks line of the line-up list. The list is sent to the head of support services via messaging platform. It is also printed twice for the Order Taker and for the releasing checker, which is given to the warehouse the next day.

The releasing checker continues the delivery process who retrieves the delivery line-up from the wholesale Order Taker from the wholesale office. The releasing checker hands over the list to the driver who categorizes the delivery receipt forms per area. The driver informs the releasing checker of the order of deliveries and passes this on to the wholesale CRA. The customer is informed through call or text of the expected delivery time and asked if there is someone who can receive it. If the customer declines the delivery time, the order goes through the line-up process again. This can be avoided by already asking for the desired delivery time from the beginning of the process. Meanwhile, if the delivery time is approved, the items are loaded in the delivery vans by the delivery assistant. This is done simultaneously with the releasing checker who

3.7 Order Fulfillment Mapping

ensures that the correct bags or boxes are loaded properly. The releasing checker also separates the delivery receipt form from the customer receipt and records the quantity of boxes in the logbook. Another check is done by the checker to confirm the mode of payment. If a customer chooses the card payment option in the order, a portable card terminal is obtained by the releasing checker from the wholesale Order Taker and is placed in the front seat of the delivery van where the delivery assistant sits. An insight that can be derived from this is that some tasks can be assigned more efficiently. This minor task of ensuring that the card terminal is in the van can be done by the delivery assistant instead since the releasing checker is already assigned to a lot of tasks.

Consequently, the delivery assistant along with the driver, delivers the items in the order of the line-up. Upon arrival at the location, the customer pays through the desired mode, either paid in-store, through card, or through cash. The customer receives the purchased goods, the customer receipt, and signs the delivery receipt form for documentation. The delivery assistant and driver arrive back in the warehouse. If the customer paid through card, the terminal is given back to the wholesale CRA. If through cash, it is surrendered to the wholesale assistant supervisor who ensures that the cash received equates to the one in the records. This is then surrendered to the wholesale Order Taker who also receives all the delivery receipt forms.

The order fulfillment blueprinting of the in-store retailing yielded different insights into the process of fulfilling orders. Several employees are required to fulfill an order, especially when the delivery service is needed by the customer. This is natural for a business with a complex system, such as a grocery store. However, some inefficiencies are traced from blueprinting. Some tasks can either be assigned more effectively or can be removed altogether. An example of this is the double checking of delivery

receipt forms that is done repeatedly during the delivery process. The mode of payment of the customer during delivery is also checked several times. Additionally, the company uses different means to document such as Google sheets, Excel, and even logging on logbooks manually. This lack of automation and synching of documents leads to errors and miscommunication.

chapter four

04

Design Brief

4.0

This chapter presents the key findings from the data analysis and the themes that emerged to address the research questions. This revealed the possible design directions that led to defining the design challenge.

In this chapter:

- 4.1 Analysis and Synthesis of Findings
- 4.2 Design Directions
- 4.3 Design Challenge

4.1 Analysis and Synthesis of Findings

The second phase of the Double Diamond framework aims to define a clearer design challenge through synthesizing and analyzing insights gained during the Discover phase of the project (Design Council, 2011). The Define phase is significant to the design process and requires substantial attention because it lessens time spent in developing the right intervention (Groeger & Schweitzer, 2014). It facilitates a clear understanding of the main issues and key opportunities within the operations of the grocery store. This section discusses insights from the different methods employed in the Discover phase and synthesizes these into themes to define the problem more clearly.

Since interviews and focus group discussions were done in *Taglish*, summaries and notes of the data gathering were translated to English. A thematic analysis was conducted for this phase of the project based on Braun and Clarke (2012). This type of analysis was used due to its flexibility and usability (Braun & Clarke, 2012). The first step was familiarization of the data gathered from the previous phase. Afterwards, initial codes were formulated and assigned to the data to briefly describe the main ideas. Thereafter, themes were searched for within these codes and were analyzed to find similarities and patterns. These themes were reviewed and were named subsequently. Examples of codes and quotes can be seen in Appendix 9. Finally, a reporting of the analysis was done as seen below.

One of the value propositions of Top Trust Mart is having a complete range of products, as identified in the Business Model Canvas. However, the SWOT analysis revealed that having good stock availability is one of their main weaknesses. This means that despite offering a broad assortment of goods, these goods are not always available to be sold due to stock outs, thus answering one of the project's questions, **how well do the current operations align with the company's strategy?**

In conclusion, the current operations do not align with their strategy because they are not able to make the products available to the customers. Following the ECR framework, efficient store assortment and efficient replenishment are substantial for consumer satisfaction (Kotzab, 1999). The business experiences disadvantages because the lack of goods does not meet the needs of the consumer (Reyes & Bhutta, 2005).

The findings also revealed that the company activities do not align with its strategy of having a personalized service. Parts of the customer experience are not entirely customer centric. This is evident in the channels that the customer uses to reach the grocery store. For example, the website uses confusing titles and captions, and the photos of the items look too similar according to the customer interviews. This results in having the need to browse the webstore for hours. This was such a struggle that a customer even made her own Excel spreadsheet to send through Facebook Messenger instead of using the website. Additionally, customers prefer ordering through the messaging apps because it is accessible to use, especially for those who are not tech savvy such as customers who are aged older. This channel is also preferred because they do not need a lot of internet data to order and contact the store.

Key partners play a significant role in the business and are important stakeholders in the system. This is seen in the completed Value Exchange Map where different values are exchanged. These partners also contribute to running the business and aid in its activities discussed in the findings. Strengthening relationships with partners improves both non-financial and financial performance of the company (Martens & Dooley, 2010). This can also

4.1 Analysis and Synthesis of Findings

be done by applying ECR components to improve operational efficiencies in the supply channel (Hoffman & Mehra, 2000). Focusing on suppliers as a key partner, relationships with them can be improved to negotiate terms and even discounts, since it is also a part of the revenue stream seen in the Business Model Canvas. Communication with the supplier is vital to the operations to avoid loss in sales and consumer confidence that may even result in customer loyalty (Pearce, 2001). Thus, structured meeting sessions can be done by the enterprise to have check-ups and align with these partners. Exchange of knowledge and information can also be facilitated through this that engages the whole network and provides more opportunities and connectedness (Conz & Zucchella, 2017). With this, a good relationship with suppliers can aid in the success of the enterprise. This can also address the low levels of stock availability and can help in attaining their desired value proposition.

Aside from this, each channel (walk-in, messaging apps, dotcom site) has a process that requires a different workflow and does not have a set integration between these channels. The order fulfillment blueprinting also revealed that forms and receipts are passed on from one employee to another. This results in mishandling, getting lost along the way. Moreover, different means are used for documentation such as logbooks, Excel, and Google Sheets by different employees. There is no cohesiveness in the documentation and monitoring of these processes, as mentioned in the interview with the COO and operations manager. This also results in redundancy as well as miscommunication. The inefficiencies of the workflows are also the reason for the slow order to fulfillment time that was revealed in one of the

customer interviews. Thus, there are gaps between the desired value with the actual value delivered to the customers.

This summary of insights from the Discover phase highlighted the challenges in the operations of Top Trust Mart. From this, it was inferred that the business has operational inefficiencies that result to low and inconsistent stock availability, slow order fulfillment times, and mismanagement of workflow processes. This also addressed the project's question: **what are the primary operational challenges that Top Trust Mart faces?**

Based on these insights, opportunities can be identified to enhance the business that answers the project's central question: **How can operations of Top Trust Mart be improved to align with the company's strategy?**

With inefficient operational processes as the core of the problems, the order fulfillment process can be optimized by narrowing down the steps to only the value adding ones. The number of employees needed in the process can also be minimized and reassigned to more important tasks. Implementation of process documentation, auditing, and monitoring can also be done to address these challenges. Moreover, the process can be streamlined to improve customer satisfaction and put the customer needs in focus. It is important to ensure that transactions are fast, accurate, and inexpensive. Based on the insights collected from the Discover phase, these strategic opportunities can allow customer satisfaction and overall success of the business.

4.2 Design Directions

The insights from the previous phase form the foundation for the project's direction. Three possible directions were formulated from these insights that can help improve the day-to-day activities for customer satisfaction. These are addressing low stock availability, developing the customer experience through its channels, and enhancing the operational processes.

Firstly, one of the issues that can be addressed in the project is its low stock availability. The customer cannot be fulfilled when the products they need are not found in the store. This affects the business negatively since customer satisfaction is linked to financial performance (Kumar et al., 2011).

Another direction the project can take is improving the customer-centeredness of the channels linked to the customer experience such as the dotcom website. Consumers value the encounters with businesses, not just the product, and significantly affects the decision of the customer to purchase products (Duenas-Caparas, 2005). Since there are different channels available for customers to interact with the business, it can be beneficial to address the identified gaps, specifically the unfriendliness of the website and the challenges that customers face in using it. Addressing these may improve the overall shopping experience and the business performance.

Tackling issues in the operational processes is another direction that the project can take. Managing operations greatly impacts the business (Rainbird, 2004) and its operations department is considered as the heart of the enterprise by the Chief Operating Officer.

"The Operations is what keeps the store running, so that's what needs to be improved."

"Ang operations ang nagpapatakbo ng tindahan kaya yun ang kailangan i-improve."

- Chief Operating Officer

Operations can be improved using strategy that involves making decisions on supply chain, technology, and information management to prioritize the cost, quality, and speed of the business transactions (Adamides, 2015). The adoption of different operational strategies enables the firm to respond to customer needs in a timely manner (Hoffman & Mehra, 2000). This allows the company to provide personalized customer service because of increased customer satisfaction.

Possible Design Directions



Addressing low stock availability



Developing the customer experience through its channels



Enhancing the operational processes

4.3 Design Challenge

The aim of this phase is to define the problem to be addressed, aligned with the research objectives. Its goal is to identify the challenge to take further in the project. With the Chief Operating Officer, it was identified that the pressing issue is that the current operational processes are inefficient and inaccurate because these are done manually and lack proper documentation. This affects the enterprise because of errors and slow order fulfillment times, resulting in decreased customer satisfaction and increased operational costs. With the aim of providing personalized customer service, the Chief Operating Officer pointed out that the current order fulfillment process can be redesigned.

"The delivery process to customers needs improvement because there are many delays, as the system isn't well-organized and the process was developed based only on experience."

"Yung pag-deliver ng order sa mga customer ang kailangan i-improve kasi marami talagang delays dahil 'di ganun kaayos yung sistema at based on experience lang naman ginawa yung process."

- Chief Operating Officer

To define the main challenge, this project aims to answer the following question:

How might we redesign the order fulfillment process of Top Trust Mart to enhance operational efficiency and provide customer satisfaction?

The project was focused and scoped down to improve a specific part of the company's operations, specifically the order fulfillment process. The business has different channels that customers can place their orders from: walk-in, website, and the messaging apps. In these different channels, customers separately transact wholesale and retail, thus there are also other order fulfillment processes for each of these. For the next phase of the project, the messaging channel, mainly Facebook Messenger, is the focus since it is identified as the most accessible for the customers in terms of cost and learning curve, especially for the older generation. Statistics also show that 96% of social network users in the Philippines use Facebook (Statista, 2023). This channel's retail process was also assessed, instead of the wholesale channel, because it is the most feasible for the project's time frame.

In summary, the project's direction was oriented towards improving the efficiency of the order fulfillment process of Top Trust Mart, focusing on the Facebook Messenger apps channel within retail transactions (Figure 6). This was executed through a redesign of the order fulfillment process blueprint.

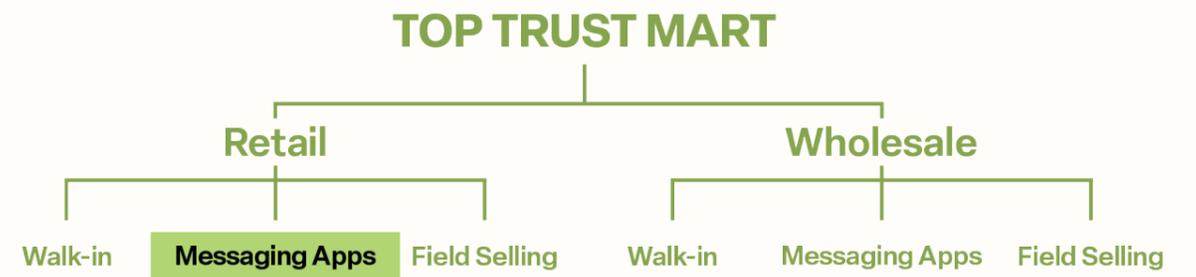


Figure 6. Focus of Design Challenge

chapter five

05

Ideation

5.0

This chapter outlines the development of the intervention through a thorough analysis of the current order fulfillment process.

In this chapter:

5.1 Current Service Blueprint Analysis

5.1 Current Service Blueprint Analysis

Following the order fulfillment process blueprinting, the process was further broken down to analyze inefficiencies and gaps. Comments were inserted in the map that were further clarified in an online interview with the assistant supervisor for the messaging apps channel.

An English version was made translated from the *Taglish* (a code-mixing dialect in the use of Tagalog and Filipino) mapping for this report (Figure 7). Markings are put in red with a number that corresponds to the following clarifications.

(The QR-code on this page can be scanned to access the blueprint in high resolution).



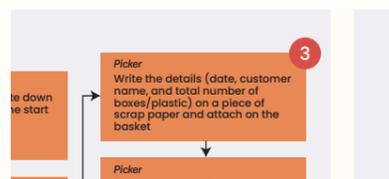
high quality files



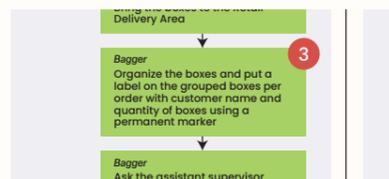
Google Sheets app is used to track orders and is the preferred app to be used because of its accessibility from different workstations. They keep the Orders Sheet and Payments Sheet separate because the payments are confidential.



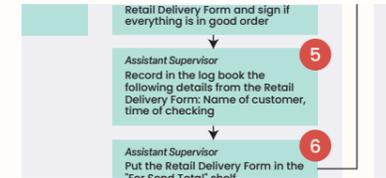
The picker asks for the "For Pick" slip instead of the order taker assigning the task because the Picker is sometimes preoccupied with other tasks such as helping the bagger to pack items, especially when there are a lot of orders.



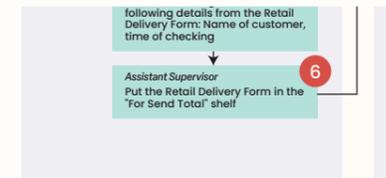
Baskets are labeled with scrap paper cut into small pieces where the details are written by hand. For them, this is not an issue because it also saves costs. This is also the same rationale for boxes where they just put the details on the box itself with a permanent marker.



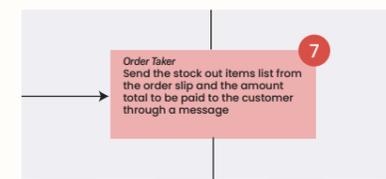
A credit sales receipt is proof that a transaction was performed in which the amount will be paid later. Authorization by assistant supervisor for credit sales is needed for security purposes.



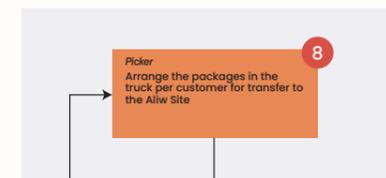
The assistant supervisor also logs the details of the Delivery Form in a logbook because there were instances where it was misplaced. This is also needed to keep track of the time when the Assistant Supervisor checked the order.



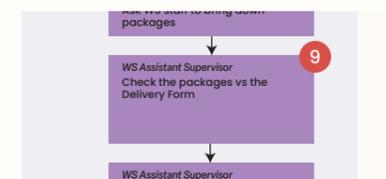
It was assumed the Delivery Form might be misplaced on the other shelves, but according to the interviewee, these shelves are located far from each other. It was clarified that misplacing the forms is unlikely.



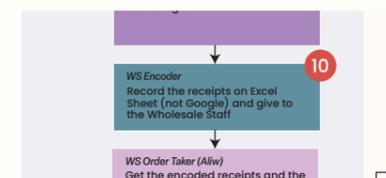
The Order Taker sends the total amount the customer needs to pay along with the list of items that are out of stock. If the customer wants to substitute a stock out, the next step is a per-case basis that depends on the urgency of the order. Sometimes, another order slip is filled up especially if there are several items to be substituted, but in urgent instances, the items are interjected and put as priority.



Aside from picking items from the shelves, the Picker is also assigned to load the packages in the truck. According to the interviewee, there is no other employee to do this and that the roles of some employees sometimes overlap.



After the items have been transferred to the Warehouse Site, the WS Assistant Supervisor still needs to check the packages against the Delivery Form to ensure that the correct packages are the ones that were sent to the Warehouse Site.



These are also recorded by the WS Encoder because there were instances where some packages were recorded in the wrong location.

CURRENT SERVICE BLUEPRINT

Messaging App - Retail

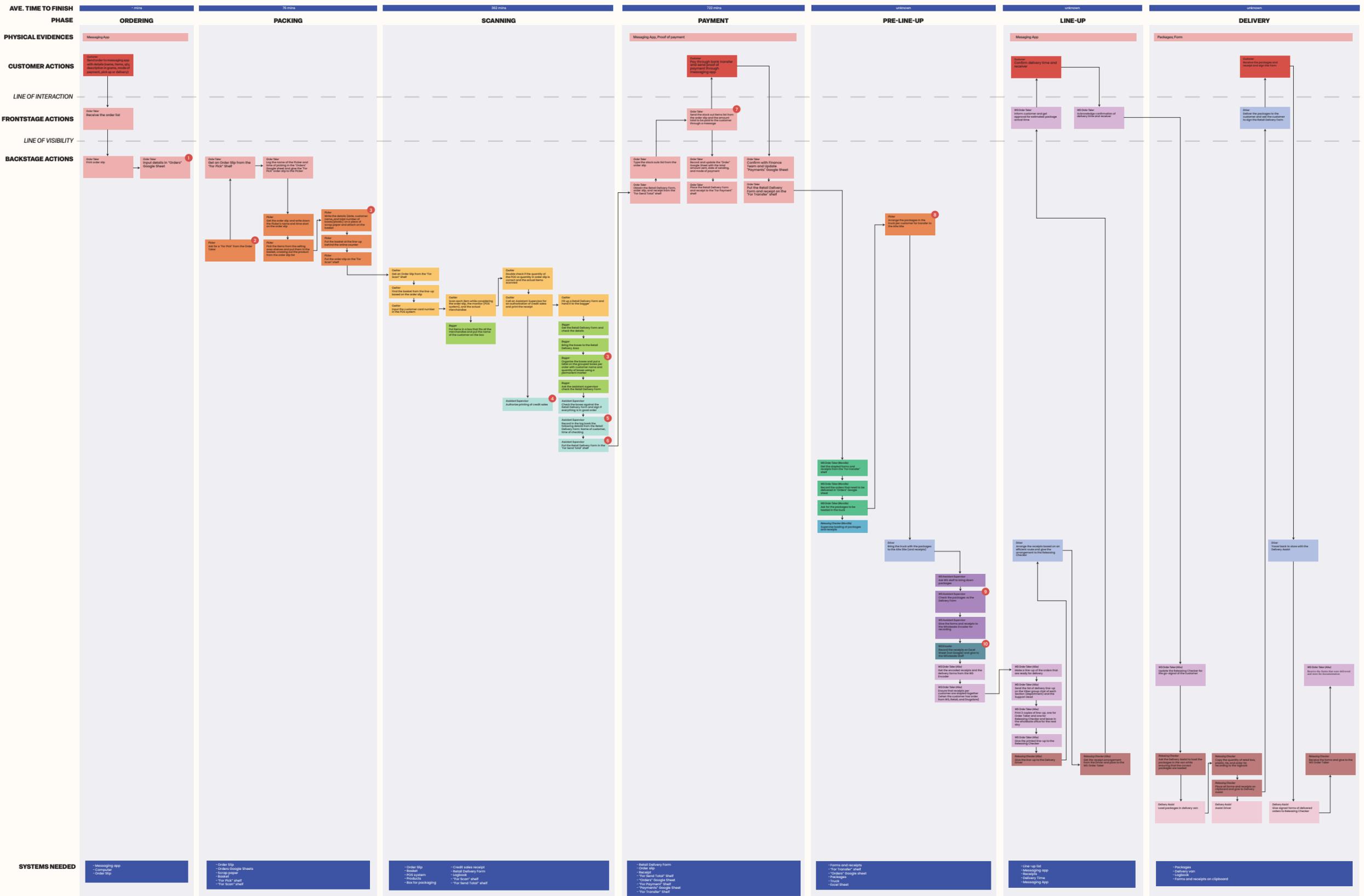


Figure 7. Top Trust Mart's Current Service Blueprint for the Retail Messaging App Channel

5.1 Current Service Blueprint Analysis

The interview with the Assistant Supervisor in charge also brought about further insights that were interesting to note. The order fulfillment times are not performed in a timely manner.

This is due to the two locations involved in the process where they still need to sort and gather the orders. It was also pointed out that the manpower and stocks are shared with the walk-in channel of the store. It was revealed that manpower is a large barrier in the store because there are not enough employees, thus some of the roles overlap. An example of this is when the picker helps the role of the bagger or packer during peak times in the walk-in channel. Another bottleneck found in the process is the need for the Order Taker to clarify incomplete details from the order list such as descriptions and grams of the product. It was also mentioned that there were some instances where the form and documents were misplaced, reiterating the insights from the interviews in the Discover phase. Additionally, it was pointed out that customers can lose interest especially if there is lack of awareness of the order status.

Following this interview, a proposed order fulfillment process was designed to improve the service. This was done in Miro using sticky notes on top of the current blueprint (Figure 8). These changes were recommended based on the literature review and other suggestions from the author.

“It does indeed take a long time for the orders to be fulfilled...”

“Matagal talaga makuha ni customer yung mga order nila...”
- Assistant Supervisor

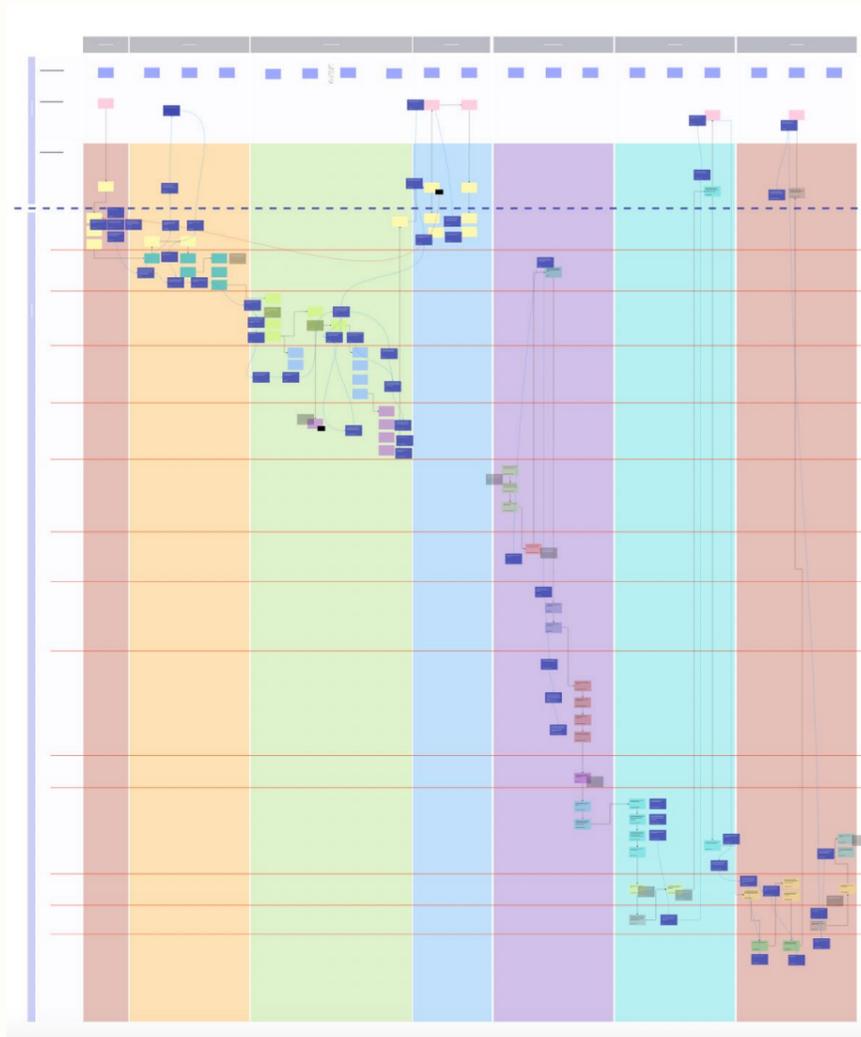


Figure 8. Miro board screenshot of service blueprint with proposed steps in purple sticky notes

chapter six

06

Design Intervention

6.0

In this chapter, the intervention is discussed, highlighting the strategies utilized to enhance the efficiency. The impact of this intervention is also described. This phase ends with presenting an implementation plan for the company.

In this chapter:

- 6.1 Proposed Redesign of Service Blueprint
- 6.2 Impact of Design Intervention on Business
- 6.3 Implementation

6.1 Proposed Redesign of Service Blueprint

A redesign of the order fulfillment process service blueprint (Figure 9) for the employees was created to enhance efficiency and improve customer satisfaction. QR-codes below can be scanned to see a high quality blueprint and an interactive version to visually see the proposed changes in detail.

One of the main changes in the process is to adopt and use technology instead of manual and traditional paper-based documentation. This is aligned with the ECR initiative, electronic data interchange, where business documents are exchanged electronically (Reyes & Bhutta, 2005). This also reduces delays and errors as well as costs that involve paper-based information (Martens & Dooley, 2010). This can make the process efficient because information is shared in real time, providing visibility of the status of the orders to employees involved in the process. The employee responsible for a specific role can tag the status of the order in the Order Google Sheet according to each phase. Additionally, the use of Excel in the process will be eliminated and Google Sheets will be the main tool. This can provide consistency and improved accessibility for the employees since the company mainly uses Google at this moment and does not have, e.g. Microsoft SharePoint integration.

Another major improvement suggested to enhance the process is suggesting products for replacement for stock outs early in the process, specifically the packing phase, instead of during the payment phase. This step is currently on a per-case basis

depending on the order's urgency in the current order fulfillment process. In the proposed process, this is introduced early in the phase so the order is not needed to go through the first three phases again and the items can be completed early on. This also streamlines the process and lessens the redundancy of the steps.

Moreover, the current process involves several personnel fulfilling the orders, specifically 13 roles. The proposed redesigning of the process will lessen the required functions to 11. Noting that the roles in the store overlap and are connected, the first role that can be changed is the Wholesale Order Taker (Main) in this specific channel. Their function in this channel is to record the outgoing packages from Main to the Warehouse Site. With the proposal, this role can focus on the wholesale orders instead of performing tasks involved in retail transactions. Additionally, the Wholesale Encoder is also proposed to be eliminated from the process of this channel whose role is to record on Excel the orders coming from Main to the Warehouse Site. Using technology, this role can be handed to the Assistant Supervisor who also monitors the unloading of the packages to the Warehouse Site for dispatch. This task of ensuring that the correct packages are transferred to the Warehouse Site can be done simultaneously with recording. These two roles can be assigned to tasks that need more manpower or to allow them to focus on their main tasks.

6.2 Impact of Design Intervention on Business

The implementation of technology is essential in enhancing Top Trust Mart's order fulfillment process. Employing ECR initiatives allows an efficient exchange of information between employees, accelerating the transactions since computerization significantly affects speed and efficiency (Duenas-Caparas, 2005). This also lessens costs associated with manual processes since errors are reduced and eradicates the need to address the error. Delivery timeliness and communication and information technologies are critical for network coordination, important for operational efficiency (Harvie, 2015). This streamlines communication to ensure prompt and accurate fulfillment, especially that miscommunication leads to order fulfillment problems (McLaughlin et al., 1998). Consequently, the effect of technology on organizational performance is greater than managerial efficiency alone (Cammayo, 2020). Thus, the design can impact the business positively. Enhancement in the order picking process leads to time and cost reduction because picking is often one of the main bottlenecks in the supply chain (Alrasheed et al., 2024). With this, the proposed

changes integrate suggestions for stock-out replacement during the picking phase, instead of the payment phase. This eliminates the redundancy of having to undergo the first few phases again for the substitutions that is also helpful for the employees themselves. Customers can also receive their order faster since these stock-outs are already addressed early on. This improves customer service and satisfaction, that should be the key priority in the business (Hoffman & Mehra, 2000).

Optimizing roles involved in the process enhances operational efficiency. Since competent employees significantly contribute to attaining the goals of the company (Calub, 2018), workforce optimization allows better productivity and cost reductions. This strategy also shifts the focus on the actual activities of the business instead of prioritizing which department or individuals are responsible for them (Rainbird, 2004). This means that the emphasis is on the activities and tasks, improving efficiency overall.

6.3 Implementation

In an already established company, introducing changes is often challenging due to the habits and daily routines of the employees. With proper planning and foresight, these challenges can be addressed easily. An implementation plan (Figure 10) of the proposed service blueprint for the messaging app channel was created to supplement the intervention. The QR-code in the previous page can also be scanned to view the map in high resolution. The components incorporated in the plan were derived from the criteria outlined by Joseph et al. (2008) and were selected based on their relevance to the project. Components of the plan include the phases of the implementation and its tasks, the technologies needed for each phase, the key services required, the risks of each phase, and strategies to mitigate these risks.

The first phase, the preparation, builds the ground for employing the proposed service. The objective of this phase is to prepare the necessary tools,

technologies, and materials to facilitate the implementation. It is important that these are arranged well, especially the video modules, to avoid challenges in the next phases. Consequently, the onboarding phase introduces and informs the employees involved in carrying out the order fulfillment process. In this phase, the employees are aligned with the goals of the redesign and comprised of training employees to equip them with necessary skills needed to effectively utilize the new technologies. The next phase is the pilot run wherein a trial of the process is carried out with the exact resources. It is recommended that each phase of the order fulfillment process is recorded to measure the efficiency of the proposal. Afterwards, refinement involves evaluation of the pilot run to know what went well and what pain points are needed to be iterated. Another test run can be done until the management is satisfied with the results. Finally, fully implementing the refined process can be done and integrated with the other channels.

Design Strategies



Enabling technologies



Enhancing stock-out replacement



Optimizing roles



interactive blueprint



high quality files

IMPLEMENTATION PLAN Proposed Service Blueprint for Messaging Apps

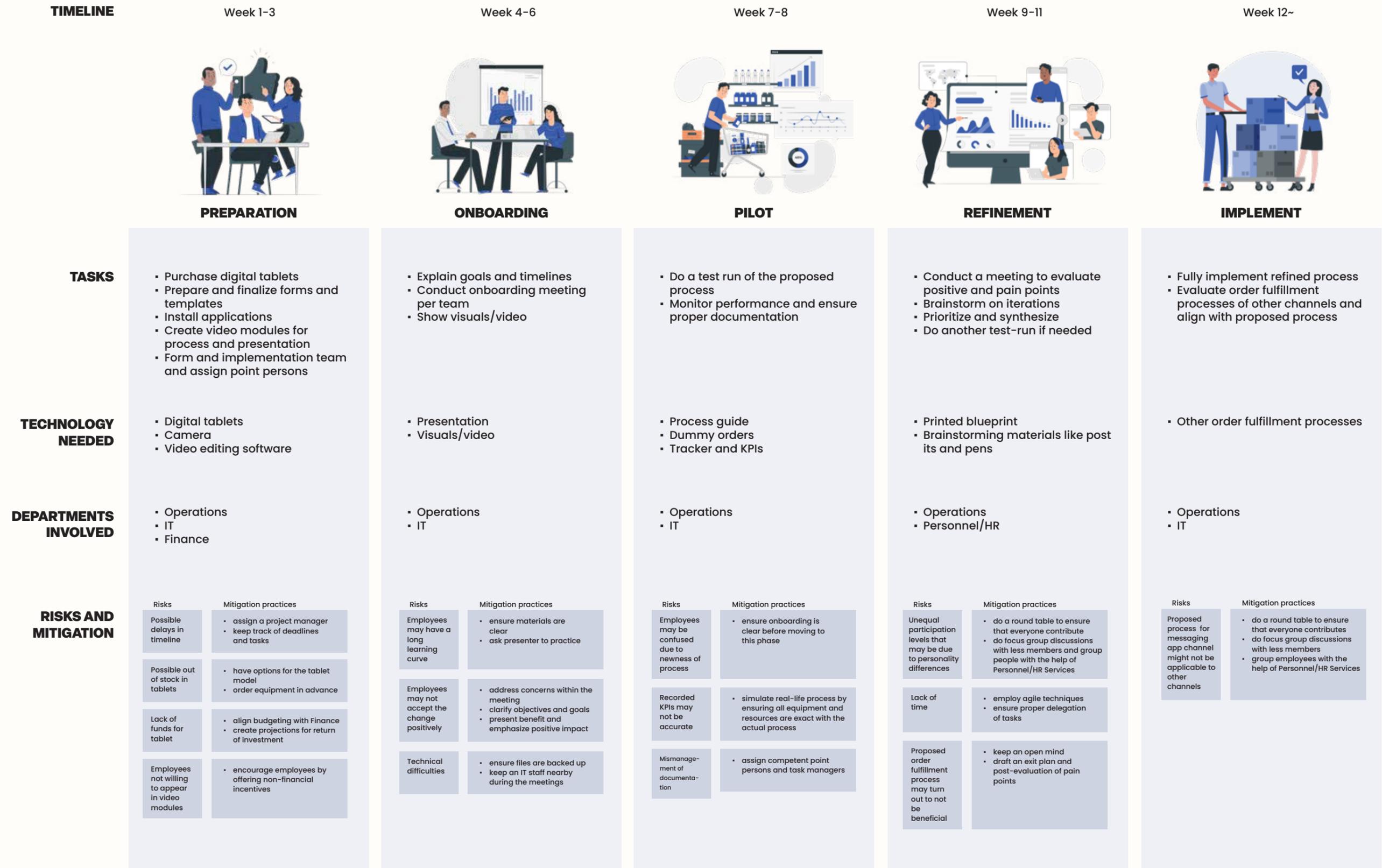


Figure 10. Implementation Plan of Top Trust Mart's Proposed Service Blueprint for the Retail Messaging App Channel

chapter seven

07

Validation

7.0

This chapter focuses on the assessment of the proposed intervention based on the stakeholder feedback, specifically the employees involved in the order fulfillment process.

In this chapter:
7.0 Validation

7.0 Validation

A validation of the proposed service blueprint for the messaging apps is significant to evaluate the design intervention. This was performed to test if the proposed intervention answers the challenge:

How might we redesign the order fulfillment process of Top Trust Mart to enhance operational efficiency and provide customer satisfaction?

This was executed through one-on-one semi-structured interviews with 10 employees involved in the order fulfillment process. Each interview session lasted for 30 minutes and was conducted online through a videoconferencing platform, which was also used to record the sessions. The roles included in the interview sessions were those involved in the proposed order fulfillment process, with interviewees chosen by the Operations Manager. The following 10 representatives were interviewed: two Order Takers, two Pickers, two Assistant Supervisors, two WS Order Taker (Warehouse Site), the Operations Manager, and the Chief Operating Officer. The objective of the validation interviews was to gain insights regarding the proposed intervention. This is based solely on the perception of the employees and not on actual implementation metrics due to the time restrictions for this project. It is not feasible to measure the impact of the intervention on operational efficiency since long-term implementation is required to obtain reliable results.

“It won’t be a hassle anymore because sometimes the order slip gets lost, and you don’t know where it was placed, so the new process is much better.”

“Kasi di na mahahassle kasi minsan yung order slip nawawala, di alam kung saan nalapag, so yung bagong proseso mas okay.”

– Picker 1

The overall feedback on the proposed service blueprint is positive and desirable.

The interviewees indicated that the flow of the transactions will be shortened because the stock outs are already addressed early in the process. Aside from this, the switch to digital tools or devices instead of using paper for the order slips allows for the status of the orders to be easily visible to the employees involved. They can manage the transactions better because of this awareness. This provides accessibility to the Order Taker to grant them ease in updating the customer of the status immediately when needed. It also provides ease in finding where the packages are around the store without having to ask each other where the order is. The interviewees also believe this can help address the issue of misplaced forms and provide easier documentation and monitoring of transactions.

With the use of technology as an investment, expenses for office supplies can also go down because of the paperless proposal and the digital tablets are for tech.

“At least knowing right away what’s out of stock is helpful because when something is out of stock, the customer can immediately know if they want a replacement. Even if the item isn’t complete, at least it gets replaced right away.”

“Yung at least malaman agad yung out of stock kasi pag may out of stock alam na agad ni customer kung ano yung replacement and may gusto ba sila na ireplace, at least di man kumpleto yung item at least may replaced agad”

– Assistant Supervisor 2

7.0 Validation

“The transaction flow will be smoother, people will be more efficient, and things will be faster for the customer because they’ll know from the start that they need an item for replacement and they’ll know the total amount right away.”

In the current process, Order Takers need to type each description of the stock out to send to the customer. In the proposed design, the Order Takers perceive the process to be more efficient because they do not have to do this task and only need to access the online Orders Google Sheet to know the stock outs. Pickers also perceive efficiency because the proposed changes limit physical movements of going back and forth to the office and selling area when they need to clarify a product description from the Order Takers.

With the efficiency of the design, customer satisfaction also improves, according to the interviewees. Since customers desire speed in receiving their orders, their satisfaction will improve with the speed of the transaction in the proposed process. This satisfaction is also affected by the ability of the employees to update the customers quickly regarding their orders.

Potential barriers and challenges of the proposal were inquired to further examine the design. Some interviewees pointed out that the tendency

“It’s beneficial that the pickers check for out-of-stock items and then just send the information to us. It will reduce the process since there are so many steps to go through right now...”

“Pinaka-beneficial yung sila [picker] na magch-check ng out of stock tapos i-s-send na lang sa amin. Kasi mas mababawas yung process kasi marami ngayong pinagdadaan...”

– Order Taker 1

Ma-l-lassen yung flow ng transaction at magiging mas efficient yung mga tao at magiging mabilis kay customer dahil noon pa lang nalaman na nila na OS yung kailangan nila na replacement pala, at malalaman nila kung magkano agad yung total.”

– Chief Operating Officer

to commit human error still exists. There may be problems in the accuracy of the employees, such as wrongly tagging the order. Also, the issue of relying on product descriptions and not the barcode is still not addressed, thus, errors in picking might still arise. This happens with products that have the same descriptions but different barcodes, such as promotional items. Another concern raised by one of the Assistant Supervisors is that employees as users may have to adjust to using the digital tablet. There might also be risks in using the equipment because the tablet might be misplaced, just like the forms that get lost along the process. A picker also mentioned that there might be a problem with where to leave the tablet, especially that their work also involves carrying and moving items and boxes. Moreover, if the proposal were to be implemented, employees may have to adjust to the changes for a long time. Lastly, a major problem that emerged in the validation was the problem with the internet connection. If the connection is faulty, access will be disrupted, unless the application can be used offline.

“It’s good because it’s paperless, and the time it takes to retrieve information is reduced.”

“Maganda kasi paperless and yung time ng pagkuha ng information ay less na.”

– Operations Manager

chapter eight

08

Conclusion

8.0

This chapter summarizes the project and discusses the project contributions. Limitations of the project are stated and recommendations for the future are also presented.

In this chapter:

- 8.1 Conclusion
- 8.2 Project Relevance
- 8.3 Limitations
- 8.4 Recommendations

8.1 Conclusion

The primary goal of the project was to improve the operations of Top Trust Mart to better align with its company strategy of providing a wide range of products at low costs while offering personalized customer service. The Double Diamond approach was used to guide the project's design process. Through focus groups discussions, design methods and tools were used to discover operational challenges in collaboration with top management. Four different sessions were conducted to utilize these methods and tools: one session focused on the Business Model Canvas and SWOT analysis, and three different sessions were held for the Value Exchange Mapping, Customer Journey Mapping, and Order Fulfillment Process Mapping. Two customers were interviewed to validate the customer journey where additional insights emerged unexpectedly. The Operations Manager and Chief Operating Officer were also interviewed together.

After the analysis of the data, the fundamental issues determined were lack of stock availability, inconvenient customer experience, and inefficient operational processes. It was concluded that the current operations do not align with the company strategy due to these core concerns.

Moreover, the inability of the business to efficiently provide products needed by its customers was identified as a major weakness. The available channels used by the store to reach its customers are also difficult to use, especially the dotcom website. Delays in the fulfillment of orders occur despite the promise of personalized customer service, characterized by fast and accurate transactions. The root of the issues identified was the lack of process management, thus an analysis of the order fulfillment processes of each channel was mapped out as a starting

The primary goal of the project was to improve the operations of Top Trust Mart to better align with its company strategy of providing a wide range of products at low costs while offering personalized customer service.

point. Chosen with the Chief Operating Officer, the direction taken for the project was to redesign the order fulfillment process of the messaging app channel focused on retail transactions (Figure 6) to enhance its efficiency for customer satisfaction. This was optimal for the project because of the accessibility of the Facebook messaging app, especially to the older generation who are the main target market of the business.

The redesign of the order fulfillment process was based on the ECR initiative of using technology to improve the process. This framework was suitable for the project because of its focus on optimizing processes in grocery stores to efficiently respond to customer needs. By digitizing the order slips, the order fulfillment process is shortened, allowing for the orders to be delivered faster to the customer. Documentation of forms is also strengthened through this proposal, increasing the visibility of employees on the order status. This also allows the employees to update the customer on their



Figure 6. Focus of Design Challenge

orders. Additionally, it was proposed to tackle the stock outs at the early phase of the process to shorten the order fulfillment time. The successful implementation of the proposal is expected to improve the efficiency of Top Trust Mart's operations to influence customer satisfaction positively.

This project was conducted with a design thinking approach by understanding the needs of the business and its stakeholders empathetically and thoroughly. This facilitated identifying a clear problem and determining opportunities to serve as direction for the project. Using design skills and competencies, a holistic view of the challenge

8.2 Project Relevance

With the design approach, this project employs skills and competencies different from other disciplines such as business. The user-centricity of the project facilitated the involvement of users in the whole design process through empathy. The strategic design approach also viewed the project in a holistic manner, incorporating different perspectives and angles of the challenge, while considering long-term goals. Design enabled the use of visual communication by considering the visual aspects of the intervention to enhance its usability and convey the knowledge to other audiences.

This design project provides significant academic and practical contributions to strategic design and operational efficiency in MSMEs, specifically in the retail sector. The study contributes to the body of literature on the application of ECR initiatives and service blueprinting that can be used in the context of grocery retail operations. The use of technology in the order fulfillment process also provides valuable insights on how innovation can be utilized to improve efficiency and achieve operational goals.

was employed by simultaneously considering the business, customers, employees, and technology. Skills in visual communication were also useful in conveying ideas and designing the interventions. This approach ensured that the redesign of the order fulfillment process was impactful and beneficial for the business and its stakeholders.

This also highlights the importance of aligning operations with the strategy of the company to gain competitive advantage. This research adds to the academic discourse by generating insights into the challenges of MSME grocery stores in the Philippines, contributing to an understanding of operational efficiency in emerging countries.

The practical relevance of the design project addresses the operational challenges of MSME grocery stores. Through the redesign of the order fulfillment process using ECR initiatives and service blueprinting, the operational efficiency is enhanced to tackle customer needs. With the use of technology, operations are streamlined to align with the company's strategic objectives. This project can also be used as a practical guide for other MSMEs to illustrate the impact of strategic design on operational efficiency, contributing to the resilience of businesses and to the development of the Philippines MSME sector.

8.3 Limitations

A few limitations must be highlighted as part of the project. Firstly, this research was conducted under time constraints. The validation of the proposed intervention was based on the assumptions of the employees and not on an actual implementation of the redesigned blueprint. It was not feasible to test the proposed changes since real-life testing of the blueprint requires a significant amount of time to be accurate.

Another limitation is how the project was conducted. Data gathering and validation were all done remotely and online since the project context is set in the Philippines. This resulted in relying on information from the employees alone, without directly observing day-to-day activities in the store. The operations could not be observed firsthand, limiting the opportunity to experience and understand the operational environment that allows for a deeper comprehension of the research.

Additionally, the difference in language is considered as a barrier in the project. The Taglish dialect was used in data gathering and conversing with the participants. This was done for their convenience and ease to establish rapport and trust. This may have affected the results of the study since the researcher had to translate the data to English. There is a possibility that some data may be skewed due to the language difference.

My affiliation with the company may also have influenced the project. The medium-sized enterprise was established and is currently managed by my parents. This may have impacted my input and interpretations as a researcher, affecting the subjectivity of the findings.

Lastly, the methodology of the project also had constraints. Focus group discussions to utilize design methods and tools were used to explore the difficulties in the business that may limit the depth of the data collection. Employees involved in the data gathering were mostly part of top management, that may have affected the findings regarding operational challenges. Staff below the managerial level may have had additional input in investigating the barriers in the day-to-day activities.

8.4 Recommendations

A number of key recommendations were provided to Top Trust Mart to enhance operational efficiency that aligns with the company's strategy. Firstly, a small-scale implementation can be done to test the effectiveness of the proposed redesign. This allows the company to gather feedback and measure performance while addressing issues early before implementing it on a wider scale.

An assessment of the other channels should also be done in adjacence to ensure compatibility with these existing channels and systems. An example of this is aligning the retail and wholesale order fulfillment processes that can enhance efficiency, especially that manpower and facilities are shared in both types of transactions. This will allow cohesive integration that allows for a multi-channel strategy.

The success of operations depends on the employees who run the day-to-day business activities. As such, it is recommended to hire and recruit skilled employees who can effectively contribute to the company. Consistent training of these staff is vital for the growth of the company and to enhance their capabilities. This can result in an improved quality of their work and performance,

leading to an overall improvement in the business, consequently increasing the turnover and customer satisfaction.

This project serves as a springboard for improving other processes in Top Trust Mart using design approaches and methods. The insights can be applied to different areas in the business such as in marketing and logistics. This promotes continuous enhancements for the company to respond to the changing customer needs, promote success, and serve as an inspiration for other MSMEs.

Lastly, this project adds to the discourse around the field of design in emerging markets like the Philippines, especially since design is often undervalued in these countries. It reveals the impact of design on overcoming operational challenges in MSMEs and improving efficiency through innovation. This demonstrates the need to integrate design thinking into business, fostering development and growth.

Personal Reflection

This project has been a transformative journey and has challenged me, professionally and personally. It helped me improve my competencies as a designer through the different challenges and experiences I faced in the process. I developed my ability to conduct sessions and workshops for stakeholders while using design methods and tools. I became comfortable with facilitating these sessions even with different personalities involved, all the more significant considering that the project was conducted remotely. I discovered the importance of defining core problems through exploration and thorough investigation. During the first few weeks, I immediately dove into finding a solution without having a deep knowledge of the problems that exist within the enterprise. Through the process, I learned how to identify the underlying problems and view these holistically that allowed me to make interventions that are beneficial for both short- and long-term. This has given me a deeper understanding of the impact of strategy design.

I learned to be comfortable in the uncertainty and discovered how to pivot, turning problems into opportunities. Personally, this was the biggest challenge in the project since I tend to follow plans closely. I understood the value of iteration and its significance to the design solution.

I chose this project because it aligns with my professional goals and academic interests. I joined TU Delft to deepen my knowledge as a designer with an entrepreneurial mindset. Truly, this project gave me the opportunity to integrate design with business, with the help of the competencies I gained from the Strategic Product Design program.

The valuable experiences from this project will guide me in my future endeavors by collaborating with stakeholders and keeping the users at the center of my designs. The analysis and synthesis of data in the project equipped me with analytical skills to make data-driven decisions in the future. With my strengthened problem-solving capabilities, I will be able to look at challenges holistically while considering different views and perspectives.

Undertaking this project was mainly motivated by the desire to add value to our family business and help it prosper to be able to serve others. Additionally, I also aimed to guide fellow MSMEs, inspired by the family business that grew from humble beginnings with the support of others. This project represents one of my contributions to improving the quality of life in my country, in service of the Filipino people.

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Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the author used ChatGPT to translate Taglish data to English and improve the language and readability of the report. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

Appendices

Appendices Overview

Appendix 1 Project Brief

Appendix 2 Business Model Canvas

Appendix 3 SWOT Analysis

Appendix 4 Value Exchange Map

Appendix 5 Chief Operating Officer and Operations Manager Interview Guide

Appendix 6 Accomplished Customer Journey Map - Miro

Appendix 7 Customer Interview Guide

Appendix 8 Accomplished Order Fulfillment Mapping with Top Management- Miro

Appendix 9 Examples of Codes and Quotes

Appendix 10 Order Fulfillment Mapping with Proposed Changes in Sticky Notes - Miro

Appendix 11 Validation Interview Guide

Appendix 1 - Project Brief





IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:

- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

STUDENT DATA & MASTER PROGRAMME

Complete all fields and indicate which master(s) you are in

Family name	Castor		IDE master(s)	<input type="checkbox"/> IPD	<input type="checkbox"/> Dfi	<input checked="" type="checkbox"/> SPD
Initials	EM		2 nd non-IDE master			
Given name	Eunice Mae		Individual programme (date of approval)			
Student number	5804108		Medisign	<input type="checkbox"/>		
			HPM	<input type="checkbox"/>		

SUPERVISORY TEAM

Fill in the required information of supervisory team members. If applicable, company mentor is added as 2nd mentor

Chair	Marina Bos-de Vos	dept./section	DOS / Section C	<p>! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.</p> <p>! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.</p> <p>! 2nd mentor only applies when a client is involved.</p>
mentor	Shahrokh Nikou	dept./section	DOS / RMCB	
2 nd mentor				
client:	Top Trust Mart			
city:	Pateros	country:	Metro Manila, Philippines	
optional comments				

APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF -> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)

Name Marina Bos-de Vos Date 21 MRT 2024 Signature 

CHECK ON STUDY PROGRESS

To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total _____ EC		YES	all 1 st year master courses passed
Of which, taking conditional requirements into account, can be part of the exam programme _____ EC		NO	missing 1 st year courses

Comments:

Sign for approval (SSC E&SA)

Name _____ Date _____ Signature _____

APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES		Supervisory Team approved
NO		Supervisory Team not approved

Comments:

Based on study progress, students is ...

	ALLOWED	to start the graduation project
	NOT	allowed to start the graduation project

Comments:

Sign for approval (BoEx)

Name _____ Date _____ Signature _____

Personal Project Brief – IDE Master Graduation Project

Name student Eunice Mae Castor

Student number 5804108

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Designing a Roadmap Using the Efficient Consumer Response (ECR) Framework as an operational **Project title** strategy for a Wholesale and Retail Grocery Store in the Philippines

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

Micro, Small, and Medium-sized Enterprises (MSMEs) are the backbone of the Philippine economy as it comprises 99% of the total business establishments in the country (2020 Philippine MSME Statistics in Brief, n.d). In the Philippines, MSMEs can be defined based on either the number of employees according to the Philippine Statistics Authority (PSA) or the size of assets according to the Magna Carta for Micro, Small, and Medium Enterprises (Table 1). Almost 50% of these MSMEs are wholesale and retail enterprises (2020 Philippine MSME Statistics in Brief, n.d). Falling under this sector, the number of supermarkets and grocery stores are also rising (Digal, 2015), therefore, it is imperative to employ strategies that would enable these businesses to thrive efficiently. The long-term success of these firms relies on day-to-day tactical management (Rainbird, 2004), thus, this project aims to focus on the operations of grocery stores, specifically in an enterprise in the Philippines as a case.

Top Trust Mart (name changed for confidentiality purposes) is a family-owned grocery store in the municipality of Pateros, Philippines. It transacts both as a business-to-business (B2B) and a business-to-consumer (B2C) enterprise through its wholesale and retail departments respectively. It is considered as a medium-sized enterprise based on the PSA definition and classified as a large enterprise under the Magna Carta for Micro, Small and Medium Enterprises. Their vision is to be the most trusted grocery store. However, the biggest identifiable challenge in achieving the vision is the lack of specific operational objectives. This poses an opportunity to improve operational management in the said enterprise. With this, management and employees can better accomplish day-to-day tasks with a clear direction leading to positive customer satisfaction and help achieve the vision of the company.

→ space available for images / figures on next page

introduction (continued): space for images

Size	By Employment	By Asset Size
Micro	1-9 employees	Up to P3,000,000
Small	10-99 employees	P3,000,001 – P15,000,000
Medium	100-199 employees	P15,000,001 – P100,000,000
Large	200 and above employees	P100,000,001 and above

Table 1. Definition of Enterprises in the Philippines

image / figure 1

2020 Philippine MSME Statistics in Brief. <https://dtwebfiles.s3.ap-southeast-1.amazonaws.com/BSMED/MSME+2020+Statistics/2020+Philippine+MSME+Statistics+in+Brief.pdf>

An Act to Promote Entrepreneurship by Strengthening Development and Assistance Programs to Micro, Small, and Medium Scale Enterprises. Rep. Act No. 9501, (3) (May 23, 2008) (Phil.). <https://www.officialgazette.gov.ph/2008/05/23/rep-public-act-no-9501/>

Digal, L. N. (2015). Modern retail food sector in the Philippines: dominance of large domestic retailers and their effects on the supply chain. *The International Review of Retail, Distribution and Consumer Research*, 25(4), 407–430. <https://doi.org/10.1080/09553969.2015.1023214>

Rainbird, M. (2004). A framework for operations management: the value chain. *International Journal of Physical Distribution & Logistics Management*, 34(3/4), 337–345. <https://doi.org/10.1108/0960030410533628>

image / figure 2

Personal Project Brief – IDE Master Graduation Project

Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice. (max 200 words)

The family-run business has been in operation since 1992. Despite running for more than three decades, its business goals are still unclear and undefined because of the limited technical access and knowledge. With the complex nature of the enterprise, a lot of moving parts exist in operations that still need a concrete direction. Efficient Consumer Response (ECR) can be used to address this challenge. ECR is 'a simple, fast, and consumer-driven system to satisfy consumer needs with the lowest possible cost' (Reyes & Bhutta, 2005). ECR can be used as a framework in this project to help the organization in realizing its strategy, which is to be the most trusted grocery store, through efficiently improving its operations. This project aims to design a roadmap to serve as a blueprint for the organization. The guidance will improve workflow and processes that will benefit the different stakeholders. Management and employees can accomplish day-to-day tasks with a clearer direction while suppliers can efficiently improve transactions, ultimately benefiting customers through a positive customer experience.

Reyes, P., & Bhutta, M. K. S. (2005). Efficient consumer response: literature review. International Journal of Integrated Supply Management, 1(4), 346. <https://doi.org/10.1504/ijism.2005.006301>

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Design a strategic and a tactical roadmap guided by the Efficient Consumer Response (ECR) framework as a strategy to manage operations in a wholesale and retail grocery store in the Philippines

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

Co-designing, co-creation and design roadmapping will be utilized as approaches. After the review of literature on MSMEs in the context and ECR, the present health of the organization will be analyzed. This will be done through semi-structured interviews with a total of 10 managers and supervisors from the following departments: Operations services (1 manager, 1 supervisor, 3 assistant supervisors), Personnel services (1 manager), and Support services (2 managers, 1 purchaser, and 1 supervisor). The co-founder who is also the chief operating officer will be interviewed. These will help in creating a customer-journey map, a process map, and a value flow map. A focus group discussion with the same 10 managers and supervisors will be done to do a SWOT analysis and create a business model canvas. These will determine the pain points that need to be addressed. Co-creation workshops will then be conducted to set goals and objectives based on the analysis. A strategic and a tactical roadmap will be designed to serve as a blueprint for the organization. Lastly, two sets of focus group discussions will be conducted with 10 managers and supervisors and the founders to validate the perceived feasibility and desirability of the roadmaps.

Project planning and key moments

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a **kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony**. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief. The four key moment dates must be filled in below

Kick off meeting 11 Mar 2024

Mid-term evaluation 6 May 2024

Green light meeting 1 Jul 2024

Graduation ceremony 29 Jul 2024

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	<input type="checkbox"/>
For how many project weeks	<input type="text"/>
Number of project days per week	<input type="text"/>

Comments:

Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five. (200 words max)

Motivated by my desire to help my parents, I wish to add value to the family business by providing an intervention to one of the major problems of the enterprise. I am also driven by an interest in the convergence of design and business. From this, the following are my personal learning objectives:

1. Apply design principles and methods to design a strategic and a tactical roadmaps
2. Develop investigative and explorative skills to understand the needs of the client and diving deep into their problems
3. Improve my ability in conducting co-creation sessions and workshops
4. Use the competencies gained from Strategic Product Design to visualize a strategy

Appendix 2 - Business Model Canvas

THE BUSINESS MODEL CANVAS

E. Castor Graduation Project Planning 2024								
Wk	M	T	W	TH	F	Activity	People Involved	Holidays
	Mar							
1	11	12	13	14	15	Kick-off	Supervisory team and student	
2	18	19	20	21	22	Desk research of context	Student	
3	25	26	27	28	29			Good Friday
	Apr							
4	1	2	3	4	5	Company analysis through interviews and focus group	10 managers and supervisors and student	Easter Monday
5	8	9	10	11	12			
6	15	16	17	18	19	Co-creation workshops to set goals and objectives		
7	22	23	24	25	26			
			May					
-	29	30	1	2	3	Break		
8	6	7	8	9	10	Mid-term evaluation	Supervisory team and student	Ascension Day
9	13	14	15	16	17	Iteration and co-creation workshops to set goals and objectives	10 managers and supervisors and student	
10	20	21	22	23	24			Whit Monday
11	27	28	29	30	31			
	Jun							
12	3	4	5	6	7	Designing the roadmap	Student with guidance of managers and supervisors	
13	10	11	12	13	14			
14	17	18	19	20	21	Focus group discussions	10 managers and supervisors and student	
15	24	25	26	27	28			
	Jul							
16	1	2	3	4	5	Green light meeting	Supervisory team and student	
17	8	9	10	11	12			
18	15	16	17	18	19			
19	22	23	24	25	26			
20	29	30	31			Graduation	Supervisory team and student	

Key Partnerships

- Who are our key suppliers?

Key Activities

- What key activities do our value propositions require?
- ...our distribution channels?
- ...our customer relationships?
- ...our revenue streams?

Value Proposition

- What value do we deliver to the customer?
- Which one of our customers' problems are we helping to solve?
- Which customer needs are we satisfying?
- What bundles of products and services are we offering to each Customer Segment?

Customer Relationship

- What type of experience do you want to provide your customers during their interaction with your brand?
- How can you cultivate strong, long-lasting relationships with your customers?

Customer Segments

- Who are we solving the problem for?
- What are their demographic characteristics?
- What unique needs do your customers have that your product or service can satisfy?

Key Resources

- What key resources do our value proposition require?
- ...our distribution channels?
- ...our customer relationships?
- ...our revenue streams?

Channels

- Through what channels can you most effectively reach your target customer?

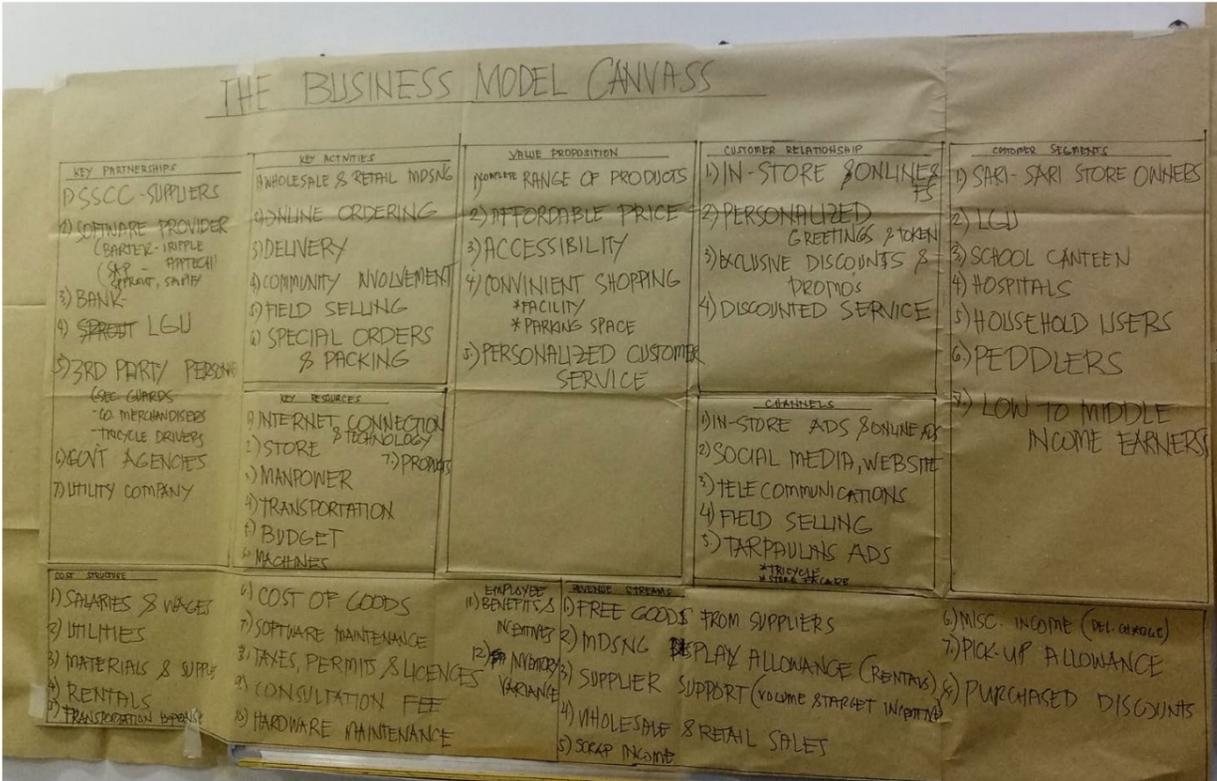
Cost Structure

- What are the fixed and variable costs associated with your business model?
- What activities or resources represent the largest expenses in your company?

Revenue Streams

- What are the main ways you generate income in your business?

Business Model Canvas Guide



Accomplished Business Model Canvas

Appendix 3 - SWOT Analysis

SWOT ANALYSIS

	Positive	Negative
Internal	<p>STRENGTHS</p> <ul style="list-style-type: none"> - What do we do well? - What have our customers or partners told us they like about us? - In what areas do we outpace our competitors? - What's unique about our business, products, or services? - What assets do we own (intellectual property, proprietary technology, capital)? 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> - What can we improve? - What are our suppliers and customers dissatisfied with? - Where do we fall behind our competitors? - What are we lacking in knowledge or resources?
External	<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> - What emerging trends can we take advantage of? - Which of our strengths might be valuable to potential partners? - What adjacent market might we tap into? - Are there geographic locations with less competition? 	<p>THREATS</p> <ul style="list-style-type: none"> - What is our competition doing? - How could our weaknesses leave us vulnerable? - What market trends are we unprepared for? - What economic or political issues could impact our business?

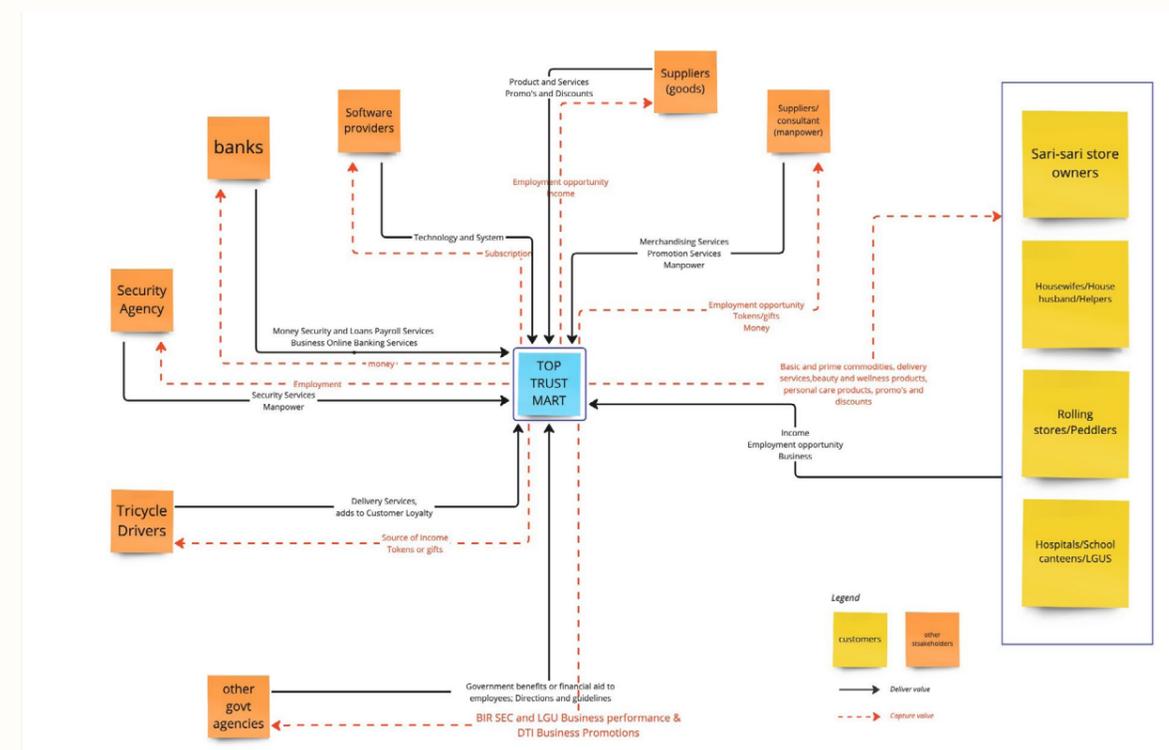
SWOT Analysis Guide

SWOT ANALYSIS

INTERNAL	POSITIVE STRENGTHS	NEGATIVE WEAKNESSES
INTERNAL	<ul style="list-style-type: none"> - MAN: FLEXIBLE, NO LATE NO ABSENT, TEAMWORK, INITIATIVE, SENSE OF OWNERSHIP, DEDICATED EMPLOYEE, KNOWLEDGEABLE, MAUKSI, EFFICIENT, MULTI-TASKER, POSITIVE THINKER, MAWISAPATY - MACHINE: HONESTY, TRUSTWORTHINESS, PRICE, SERVICE, SPEED, DURABLE, CENTRAL, VEHICLE, BILL COUNTER, PRICE CHANGE, LOANS RECEIVING, TEAMWORK 	<ul style="list-style-type: none"> - MAN: PERCOT, (H), MACHANE, SLOW PRICE, INSUBORDINATION, ATTENDANCE & PUNCTUALITY, BUILDING STRUCTURE STRONG, VENTILATION, STOCKS AVAILABILITY (DS), BI DURE INFESTATION
EXTERNAL	OPPORTUNITIES	THREATS
EXTERNAL	<ul style="list-style-type: none"> - SUPPLIERS OFFER - GEOGRAPHICAL LOCATIONS - ONLINE ORDERING 	<ul style="list-style-type: none"> - CONSIGNMENT - FREE DELIVER w/o minimum purchase - SUPPLIERS MARKETING STRATEGY - COMPETITORS EXPANSION - MORE ATTRACTIVE COMPETITORS PROM - ROLLING STORE

Accomplished SWOT Analysis

Appendix 4 - Value Exchange Map



Appendix 5 - Chief Operating Officer and Operations Manager Interview Guide

1. How do you define your role in the organization?

Ano ang iyong roles sa organisasyon?

2. What is a memorable challenge or difficulty you faced in your role?

Ano ang pinakamahirap na pagsubok na hinang mo sa iyong trabaho?

3. What are the top concerns in operations from the weaknesses and threats identified in the SWOT analysis?

Ano ang pagsubok na dapat tuunan ng pansin sa weakness and threats na lumabas sa SWOT analysis?

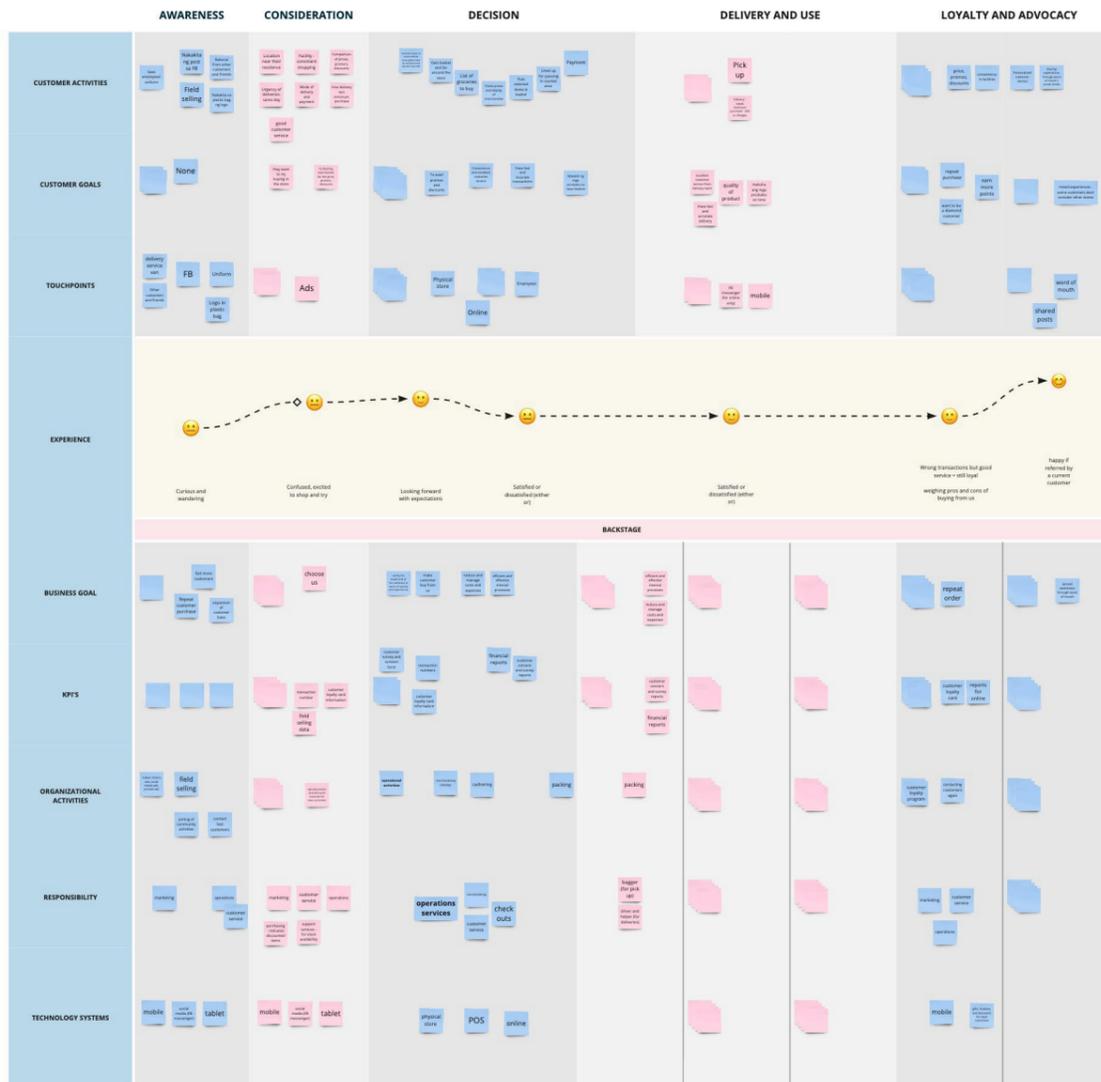
4. Elaborate why this happens.

Bakit ito nangyayari?

5. How are these important?

Paano ito mahalaga?

Appendix 6 - Accomplished Customer Journey Map - Miro



Appendix 7 - Customer Interview Guide

1. Could you please start by telling me a bit about yourself, including your business?
Paki introduce mo ang iyong sarili (background, sarisari store)?

2. How long have you been shopping in X?
Gaano na kayong katagal namimili sa X?

3. How did you hear about X?
Paano ninyo nalaman tungkol sa amin?

4. What characteristics do you look for in a good grocery store?
Anong mga katangian ang hinahanap ninyo sa isang magandang grocery store?

5. As a loyal customer, what makes you keep on shopping again at X?
Bilang suki, ano ang nagpapabalik sa inyo sa X?

6. What is a challenge that you faced in shopping at X?
Ano ang hamon na naranasan ninyo sa pamimili sa X?

7. What does a normal shopping day look like to you? Give a run down of the whole process.
Ano ang hitsura ng isang normal na araw ng pamimili para sa inyo? Ibigay ang buong proseso.

8. What other comments or insights do you want to share about X?
Mayroon ba kayong ibang mga komento o pananaw na nais ibahagi tungkol sa X?

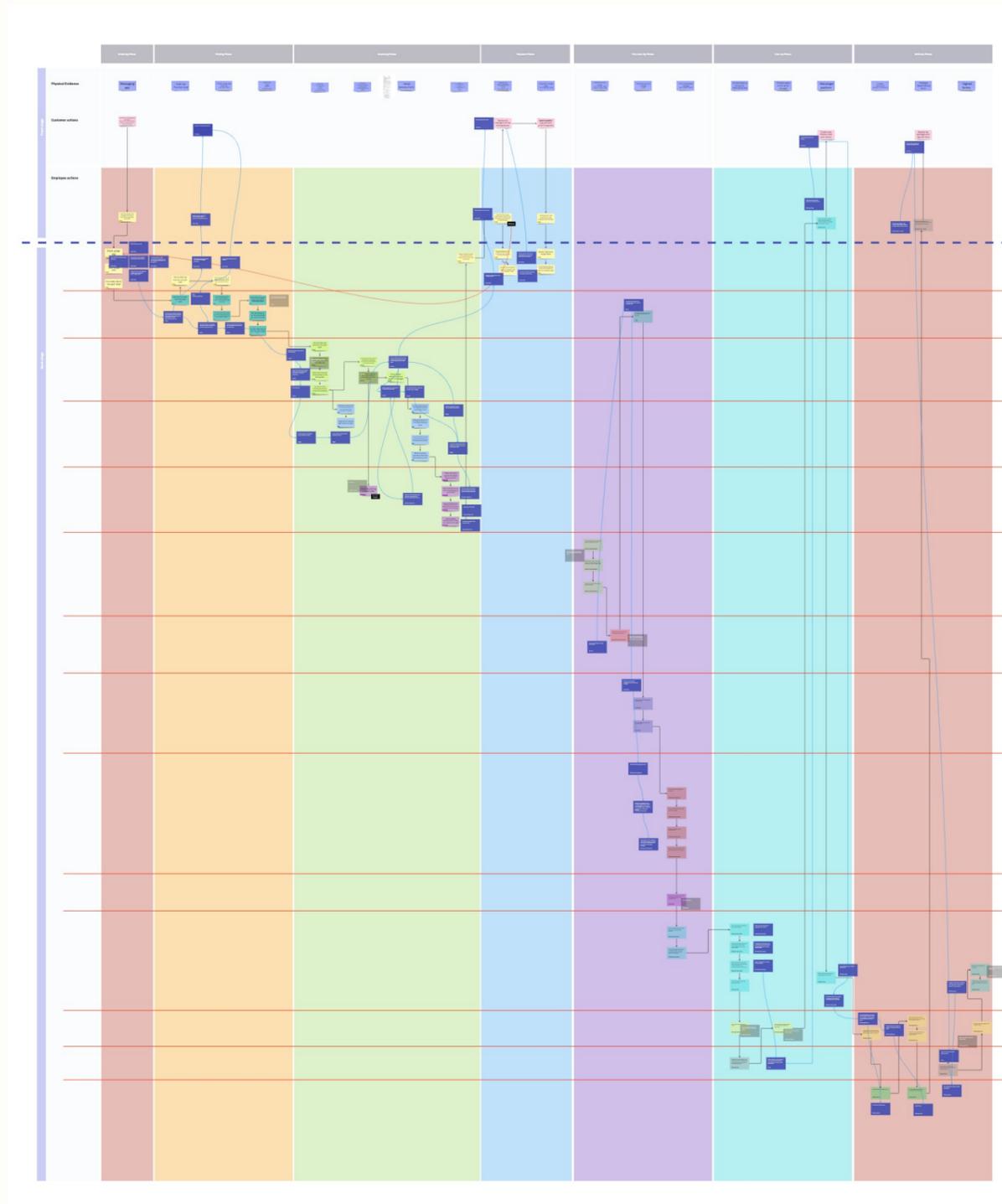
Appendix 8 - Accomplished Order Fulfillment Mapping with Top Management- Miro



Appendix 9 - Examples of Codes and Quotes

Themes	Sub-themes	Codes	Quotes
Customer Experience and Personalization	Website and Online Experience	Website Usability Challenges	"The website is confusing especially the order of the items." - Customer A "I like using FB Messenger better because picking and clicking each item in the dotcom website is too tedious." - Customer A
	Operational Processes and Workflow Management	Operational Activities and Processes	Transactions
Documentation and Workflow Efficiency		Manual Process Orientation	"Currently, processes are oriented manually and face-to-face." - COO
Documentation	Documentation Practices	Process Improvement Needs	"Sometimes, due to the large number of processes, issues become apparent during implementation that require improvement." - OpMan
		Excel Sheet for Ordering	"My husband made an excel sheet for me where I just input the item and quantity and it will automatically be converted to a shopping list." - Customer A
		Inconsistent Means	"Additionally, finding processes can be slow because they are sometimes not properly filed or compiled." - COO "Compilation and documentation are often inadequate." - COO
Product Range and Stock Availability	Stock Management	Stock Availability as weakness	"Stock availability is a problem, as many items are missing even though they are part of our value proposition."
		Customer Experience with Product Availability	Issues with Order Delays
		Order and Pickup Process	"The usual process is ordering, confirming, and then they will message me the total amount to be paid." - Customer B

Appendix 10 - Order Fulfillment Mapping with Proposed Changes in Sticky Notes - Miro



Appendix 11 - Validation Interview Guide

1. Could you please start by telling me a bit about yourself, including your business?
Paki introduce mo ang iyong sarili (background, sarisari store)?

What are your thoughts on the new order fulfillment process compared to the current process?

Ano ang tingin mo tungkol sa bagong proseso ng order fulfillment kumpara sa kasalukuyan?

Do you think the proposed steps will increase efficiency of the OFP?

Sa tingin mo ba ay magiging mas efficient ang OFP dahil sa mga mungkahing hakbang?

Do you think this will increase customer satisfaction?

Sa tingin mo ba ay madadagdagan nito and customer satisfaction?

Which aspects do you find most beneficial?

Alin sa mga aspeto ang pinaka-kapaki-pakinabang para sa iyo?

Are there any steps you find unnecessary?

Mayroon bang mga hakbang na sa tingin mo ay hindi kinakailangan?

How easy is it to understand or use?

Gaano kadali itong intidihin o gamitin?

Is it important to have visibility on the order status?

Mahalaga bang makita ang status ng order?

Do you foresee any potential problems with implementing the new process?

Nakikita mo ba ang anumang potensyal na problema sa pag-implement ng bagong proseso?

Is there anything else you want to change or improve in the new process?

Mayroon bang iba pang bagay na nais mong baguhin o pagbutihin sa bagong proseso?

