

# **Frozen Food Packaging And Innovation Product Design Addressing Customers Pains Point In Covid 19 Quarantine: A Case Study of Homemade Frozen Food**

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## **Abstract**

The period of quarantine during the COVID-19 pandemic has many different meanings for each person. Limited movement and activities have limited access to fulfillment of healthy, hygienic, and safe food. Food has added value, a form of fulfillment of basic needs and entertainment and pleasure. The purpose of this paper is to examine the target customer pain of frozen food during the covid-19 quarantine and make product design and packaging innovations following consumer expectations. Innovation Product Design is one strategy that allows companies to develop and survive during the Covid. This research uses an action research method with a qualitative descriptive approach to seek, find and create appropriate product design and packaging to solve customer pains. This study's results resulted in product design innovation and packaging for frozen food following consumers' expectations. This research's significance is the analysis of target customers pains during the quarantine period, which can be an opportunity for the frozen food business. This research's recommendation is product packaging development for frozen food by exploring the culinary treasures of the archipelago to add product value through packaging and product design innovation.

## **Keywords**

Entrepreneurship, Packaging, Design Product, Frozen Food, COVID-19

## 1. Introduction

Entering the year 2020, countries worldwide faced numerous incidents. One of them is a pandemic caused by a virus (SARS-CoV-2) or called COVID-19. COVID-19 or known as severe acute respiratory syndrome coronavirus 2, is a virus that attacks the respiratory system and transmissible between humans through droplets. And lack of proper protective equipment like a mask makes spreading rapidly (Wu et al., 2020). Therefore, many countries are making efforts to stop the spread of COVID-19, including Indonesia, with PSBB or restrictions on certain activities such as a limitation on gatherings, worships, offices, and malls, also schools and restaurant closure. Thus, offices obligated their employees to work at home and limit their action in choosing food because of that closure.

During this condition, people, especially those affected by large-scale social restrictions, are searching for an alternative to select their food. Furthermore, they wanted food that long-lasting, taste good, and easy to cook because they were still working at home and doing other activities. And they wanted to something more practical during this quarantine. So, they choose to buy frozen food, whether store-bought frozen food or home industries' frozen food during this pandemic. And they are searching for an alternative to limit their food expenses because of payroll deduction during COVID-19.

Therefore, during this time, frozen food industries flourished and were proven by 300% rise in demand for frozen food, especially for home industries frozen food (Tempo.co, 2020). Large-scale enterprises like PT Sierad Produce Tbk, showing their growth in the second quarter of this year, grow by 9,9% into Rp272.38 billion on sale (Hidayat, 2020). Furthermore, during covid-19, mostly employees seek frozen food as their food.

This research is vital to find customer pain points during COVID-19 in choosing frozen food based on their taste, packaging, and price. Also, this research verified what customers want in this product. For that reason, some problems are identified, such as (1) how to deliver Sant.Ap development product as a solution for pain point customer? (2) How to make the right frozen food product according to customer needs (packaging, taste, and price)? (3) How Sant.Ap survive and seek opportunities during this crisis?

And in this research, to solve these problems, a company called Sant.Ap was created. Sant.ap is a startup that was founded on 19 of October 2020 by Farhan and Nada. Sant.ap main point is to develop frozen food in packages for our customer. We create frozen food with the unique taste of our home country Indonesia. We use various spices to elevate the taste of Indonesian food through our products come in unusual packages. Our value to create products that can help our customer life more practical for them that don't have time to cook in their spare time.

Sant.ap founded with the idea of both the founders can cook and see the problem in society regarding food, which is having food that can be stored in a freezer for a long time and easy to cook when in need. People that are always on-the-go every day don't have time to cook. And they need fast food that is still healthy and delicious and easy to cook or reheat, leading them to tend to purchase junk food that can be quite expensive and not very beneficial. Then leads us to create Sant.Ap to solve those problems and issues, our answer to those issues is creating products of ayam woku dan cumi asin petai with added spicy level. Each of the products is available in small sizes of 125gr, the bigger one of 250gr, and safely sealed.

### 1.1 Objectives

This research focused on examining the target customer pain of frozen food during the COVID-19 quarantine. Then, product development will deliver as a solution to their pain or problem—furthermore, Sant.Ap will make a product that also focuses on design and packaging innovations following customer needs. Again, this research is to seek opportunities during COVID-19 and stayed survive during this pandemic.

## 2. Literature Review

During COVID-19, they were causing one of the worst health crisis in the world. Not only on health, COVID-19 causing a crisis in the business sector, especially small-medium enterprises in Indonesia. This crisis is worse than 1997 - 1998 economic crisis because SMEs become the savior in that crisis (Lutfi et al., 2020). However, during this time, people limit their time to going outside and working from home, even self-quarantine or isolating themselves. Also, some SMEs are in closure impact of large-scale social restriction. Hence, almost all SMEs in every sector showing their sales decline when a social restriction is implemented. Small business enterprises must also fulfill new health

protocols such as using a mask when producing, implemented working at home or social distancing while working, and always wash hands before and after production.

Customer pain is found in Value Proposition Canvas define customer or users struggle with the current product or in this case with current situation (Kyhnau & Nielsen, 2015). Also, in this customer pains, researchers know their problems precisely. And their problems such as limited long-lasting product and more practical meals. And they wanted a healthier product without artificial preservatives. Also, they are still struggling with the price of some meals that during this time are skyrocketing. Moreover, they are still not impressed with the taste of current foods, mostly frozen food.

Product design is a process of imagining, creating, and iterating products that solve user pains and problems. There are three cores in product design, design activities, design choices, and design results (Ravasi & Stigliani, 2012). The first step in designing products is setting boundaries on our review. In this case, designing products must focus on solving their pains and problems, making the product more durable or long-lasting than other products. Then, selecting prototyping as a method to trial the design and testing it out to the target customer. And after this testing, researchers know this prototyping product needs improvement or that products came up with the final product. Hence, those prototyped are fulfilling requirements and solving their problems. Also, that products became their pain reliever.

### 3. Methods

Action research was proposed in 1988 by Stephen Kemmis and Robin McTaggart. Kemmis revealed that action research is carried out in a reflective and collective society and aims to improve practical social reasoning (Kemmis & McTaggart, 1988). McCutcheon and Jung believe that action research has the characteristics of cooperative, collaborative, self-reflection, and critical systematic inquiry, and respondents conduct it. Action research aims to understand and rationally explain or improve practice (McCutcheon & Jung, 1990). According to Kemmis and McTaggart (Kemmis and McTaggart, 1988) in their book titled Action Research Planner, the purpose of action research is to understand existing practices better and improve user reasoning. Besides, the four stages repeated until a suitable result was found from this research.

Furthermore, authors or researchers in this research included as a participant-observer. Participant observer, according to Merriam Webster, is a research technique in anthropology and sociology characterized by the effort of an investigator to gain entrance into and social acceptance by a foreign culture or alien group to better attain a comprehensive understanding of the internal structure of the society (merriam webster, 2021). Thus, authors or researchers participate directly in all processes in this business.

The descriptive analysis, also called descriptive analysis or descriptive statistics, uses statistical techniques to describe or aggregate a set of data. As one of the main types of data analysis, descriptive analysis is popular because of its ability to generate accessible insights from otherwise unexplainable data. Unlike other types of data analysis, the descriptive analysis does not try to predict the future. Instead, it gains insight only from past data by operating in a way that makes it more meaningful. Descriptive analysis is about describing or summarizing data. Although it cannot predict the future, it is still precious in a business environment. Mainly, the descriptive analysis makes data usage easier, making it easier for analysts to act. Another benefit of descriptive analysis is that it can help filter out data with little meaning. The statistical techniques used in this type of analysis usually focus on patterns in the data rather than outliers. This research will analyze data using various methods such as Business Model Canvas, Value Proposition Canvas, and Prototyping.

Business Model Canvas (BMC), according to Osterwalder and Pigneur (Osterwalder & Pigneur, 2010), in their book Business Model Generation, is a tool that strategy used to describe a business model and a company foundation to create, deliver, and capture value. The concept can become a shared language that allows you to easily define and manipulate business models to create new strategic alternatives. Without this shared language, it is difficult to question your business model assumptions and successfully innovate systematically. We believe that a business model described by nine basic building blocks shows how the company intends to make money. These nine blocks cover the four main business areas: customers, business, infrastructure, and financial viability. A business model is like a blueprint for implementing strategies through organizational structures, processes and systems.

Value proposition Canvas was introduced and developed by Dr. Alexander Osterwalder to ensure a product or service positioned around the customer's values and needs. And in detail, VPC looked at the correlation between customer segments and value propositions on Business Model Canvas (Kyhnau & Nielsen, 2015). And in Value Proposition Canvas, there are six components: gain creators, pain Relievers, customer jobs, customer gains, and customer pains. Customer pains identified all the pains that customers feel about the product.

Model the achievements of Sant.Ap business and plans to solve our problems using prototyping. The company's focus is on creating prototypes so that we can directly test our intended target market. In this way, we will receive feedback from these consumers and transform our products into products that ultimately meet consumer needs. Knowing that our products' concepts can solve consumer problems through prototypes at all stages will help ensure that our products can solve community problems. By using this prototype, we can submit it to consumers so that consumers can try these products. Therefore, we can solve this problem by performing product repair procedures. And we can provide solutions after making prototypes for potential customers to make customers satisfied with our products. Therefore, our business needs consumer feedback. To solve the problems in the products that consumers want, we need information as a solution to support our business management products so that we can find out the needs of consumers.

#### **4. Data Collection**

On this research, we are using an online questionnaire for data collection. This questionnaire will validate our product with pains point and need customer. This questionnaire divided into two questionnaires. The first questionnaire will be asking about your pains or problems selecting food and frozen food during COVID-19. The last questionnaire will ask customer satisfaction about the final product based on price, taste, and packaging. In this research, we will add some supporting data to prove Sant.Ap is a solving problem product and meets customer needs. This questionnaire using google form as media to answer and social media to distribute.

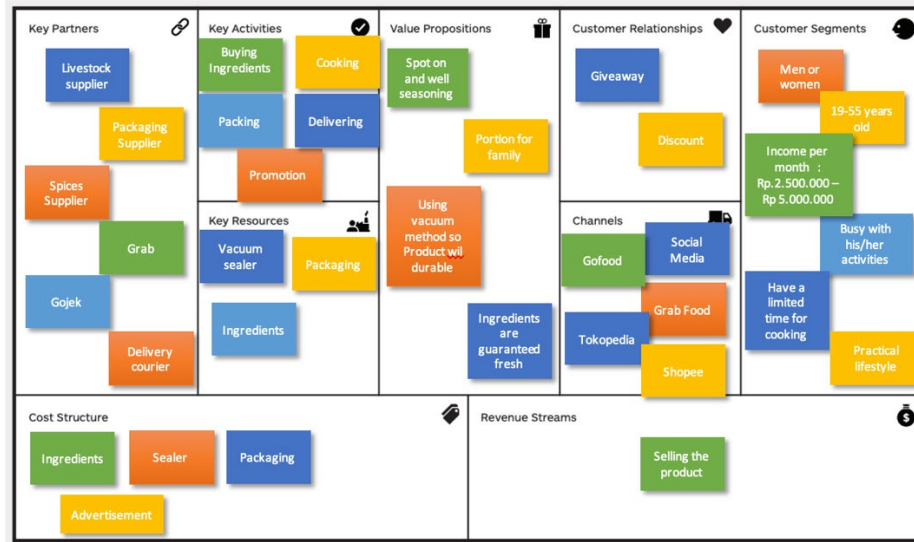
Respondent in this research is using purposive sampling. Purposive sampling is a technique for determining research samples with specific criteria to make the data more accurate with this research (Sugiyono, 2010). Hence, using purposive sampling make our research more precise on selecting respondent. Also, generate the data more reliable and accurate. The specific criteria of this research are according to our customer target from Business Modal Canvas.

Furthermore, in this research, the target respondents are 25 people who bought our product. Through prototypes at all stages will help ensure that our products can solve community problems. By using this prototype, we can submit it to consumers so that consumers can try these products. Therefore, we can solve this problem by performing product repair procedures. And we can provide solutions after making prototypes for potential customers to make customers satisfied with our products. Therefore, our business needs consumer feedback. To solve the problems in the products that consumers want, we need information to support our business management products so that we can find out the needs of consumers.

#### **5. Results and Discussion**

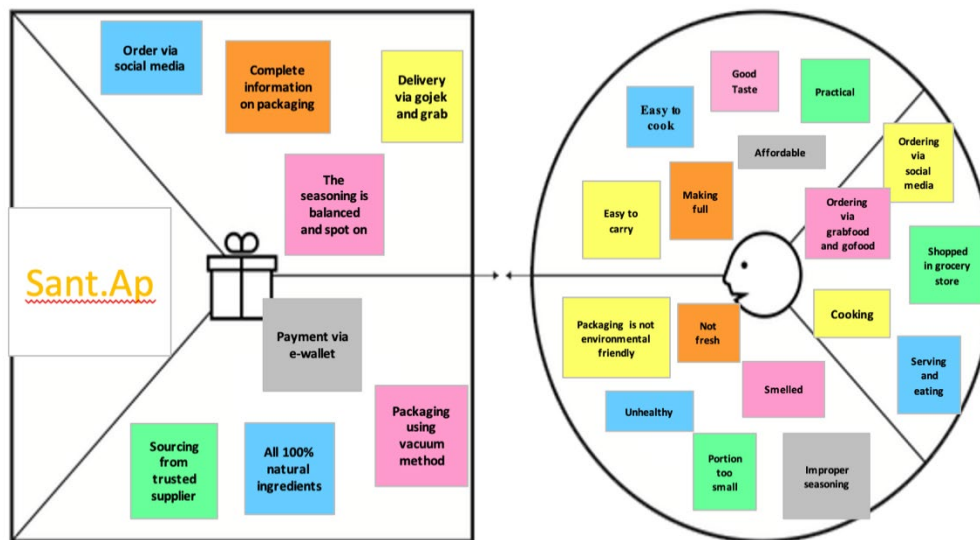
The result from conducting questionnaires to selected respondents or target customers found that in this research are people choosing frozen food because it is convenient and easy to cook. This finding supported data from our previous questionnaire and other journals explaining most customers buying because of ease to cook (Sen et al., 2019). Another reason they bought frozen food is the taste of the products. They concern that frozen food is tasteless and not appetizing. Also, they wanted that a product could long-lasting even it is stored not in the freezer. Moreover, another pain point from this finding is frozen food products, especially from a nearby grocery store, the price is high. And because of that, they searching a better product based on convenience, taste, packaging, and cost.

After knowing their problems and pains from research findings, building Business Model Canvas and Value Proposition Canvas needed to solve their problems. Also, creating a product using prototyping to fulfilling ideas based on their pains and making them into the final product. In this Business Model Canvas, analyzing how the product captured value proposition and solving their problems. Also, that value becoming a pain reliever for customer pain. Furthermore, this method helps us to detail our plans in solving their pains. And this is our Business Model Canvas,



In this Business Model Canvas, there are some values for solving their pains, such as product development of frozen food using vacuum technology. Hence, the product will last longer than average frozen food, even not stored in the freezer. And our product guaranteed that raw materials are fresh and has passed quality control. Also, manage to use spices and flavored the product according to what they wanted. Furthermore, we define our target customer more, with criteria men or women, 19-55 years old, with their range income, and their favorites. Using BMC, we built a complete idea to generate pain relievers and delivered to customers.

Furthermore, we build Value Proposition Canvas to enhance their pains and solutions that deliver our values. Also, to generate a more precise idea for making the product fit to requirements. Moreover, in VPC, we added more customer pains than in the previous Business Model Canvas. Their pains are the product using ingredients that not fresh, smelled, and there are no seasonings. The portion is small, the packaging is not environmentally friendly, and unhealthy ingredients like artificial preservative and flavoring.

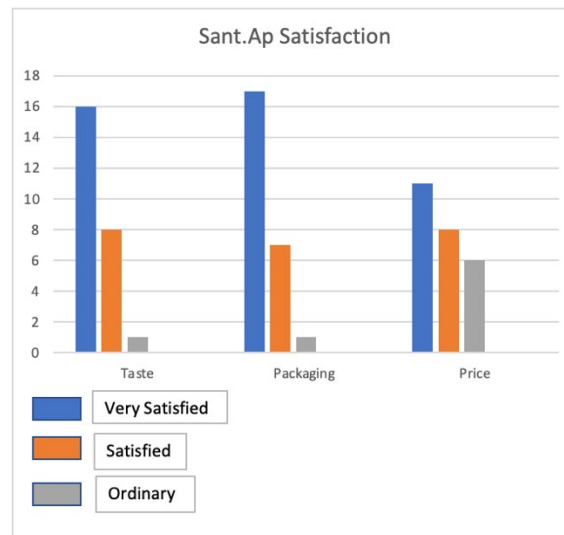


After that, generating a pain reliever from customer pain points. Our product offered 100% natural ingredients, not artificial and hazardous ingredients, for customer health. And we are sourcing our ingredients responsibly from a trusted supplier. In that case, we could see the ingredient like how fresh it is and guarantee quality. Using the vacuum

method on the packaging to make our product durable is a pain reliever for them. With that method, eliminating air in the packaging could prevent the product molded, and our product will be more durable even without any artificial preservatives.

After analyzing our Business Model Canvas and Value Proposition Canvas, the next step is making the final product with prototyping. In prototyping, we create products according to requirements on pain relievers. Also, in this prototyping, we use trial and error for making products. This trial and error proceed until the products meet the requirements of our customer. And it revealed that our final products are ready to be sold in the market and solving their problems.

## 5.1 Graphical Results



After conducting this research and getting a result from the questionnaire, and selling our products, the next step is to analyze the data with some chart or graphic. This bar chart above explains how customers are satisfied with our product. In that chart, there are three different components such as taste, packaging, and price. And from that bar known that 16 people very satisfied by product taste, eight people satisfied with the taste of the product, and only one person feel ordinary about the taste of the product.

Also, from that chart, 17 people were delighted with the packaging of the product. And seven people were satisfied, and a person felt ordinary. From this chart, we knew that our products are solving their problems and pains. Proved by a majority of customers are very satisfied with our product based on taste, packaging, and price. And as well as with customer that satisfied in that chart. Then, making this product as a pain reliever and problem solver for our customer.

## 5.2 Proposed Improvements

Furthermore, to improve products more likable and customer more willingness to buy our products are changing the packaging from plastic that hard to recycle into plastic that easy to recycle, especially vacuum plastic. Besides that, to improve the taste of products are diversified products into some sizes and lines. This effort to make sure customers happy and make sure satisfaction steadily increased. Within that circumstances, customers are more willing to buy our product and make sure our company survive and keep growing.

## 5.3 Validation

After analyzing this research, to ensure this research credible and proofing data above with our company sales. In this case, sales validate the research by showing products sold to our customers. Also, these sales validate the customer satisfaction chart above. These sales occurred for eight months, from May 2020 to December 2020. In the first month

sales, there have sold four units each of 250 grams cumi asin petai and 250 grams ayam woku. Thus, in May, the total sales of Sant.Ap products were eight units. In June, Sant.Ap sold eight units of 250 grams cumi asin petai and 13 units of 250 grams of ayam woku. In July, Sant.Ap started selling cumi asin petai and ayam woku in small size or weighing 125 grams. Moreover, there been seven units of 125 grams cumi asin petai and four units of 125 grams large size ayam woku were sold, along with 14 units of large size cumi asin petai and 12 units of large size ayam woku.

In the next three months, this company sold large size of six units ayam woku and four units cumi asin petai. And Sant.Ap sold small size seven units ayam woku and a unit of cumi asin petai. Also, in November, Sant.Ap started selling ayam kalasan and ayam cabe hejo. Hence, in that month, two units of ayam kalasan are sold. Furthermore, from 2020 to December, Sant.Ap has sold 34 units and nine units of large and small cumi asin petai, respectively. 34 units of large ayam woku and 11 units of small ayam woku. And three units of ayam kalasan. And during this period, Sant.Ap could sell 91 units of product.

## **6. Conclusion**

During this crisis, this research proved that during this crisis caused by COVID-19 made people, especially in Indonesia, increase some pains and problems in selecting food and finally choosing frozen food. One of their pain is searching for a product that more practical than before the pandemic is happening. According to this research, other pains are frozen food products mostly tasteless. The price is high in grocery stores, and packaging is not durable, making product damaged or even trite. Therefore, researchers in this research build products with various methods, such as Business Model Canvas and Value Proposition Canvas, to generate pain reliever ideas. And implement prototyping as trial and error, which is testing products according to target customers.

Moreover, making these products must comply with their pains and pains reliever in Value Proposition Canvas, such as convenience products, vacuum methods, and better price and quality. After that, this company received customer satisfaction data from a questionnaire that asked them to be satisfied with these products by filling this out through questionnaires. Also, customer satisfaction can measured up by the number of sold products. In this data, the majority of people are satisfied with Sant.Ap products, and Sant.Ap been sold 91 products during 2020. Thus, proven that Sant.Ap solved customer problems and Sant.Ap products become pain reliever. Moreover, proving during a crisis like this, our company will survive and grow steadily.

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