



Analysis of Consumer Perceptions of Healthy Snacks

Vivian*¹, Heru Wijayanto Aripadono¹

Universitas Internasional Batam, Indonesia¹

*Corresponding Email: 2142108.vivian@uib.edu

Abstract: Healthy snacks are often one of the forgotten options for some people, with the mindset "Healthy snacks are not tasty, healthy snacks are tasteless." However, not all healthy snacks are bland, it's more about the food we eat with the original or natural flavor of the food itself and no MSG added to the food. As awareness about the importance of healthy eating increases, there is a need to change consumer perceptions that healthy snacks are also delicious. Besides, there are some consumers who are confused to find healthy yet tasty snacks. In this case, an analysis of consumer perception for healthy snacks in Batam city will be conducted. This research will use qualitative methods in the form of interview, observation and the design thinking approach. The design thinking approach includes the stages of empathize, define, ideate, prototype and test to understand consumer needs and formulate problems. With this method, it is expected to create solutions to consumer perception for healthy snacks and provide one example of a healthy snack product idea.

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INTRODUCTION

Healthy snacks are often overlooked by some, with the mindset that "Healthy snacks are bad, healthy snacks are bland." Actually, this mindset isn't entirely wrong, as there's a rationale behind each statement. Not all healthy snacks are bland; rather, we prefer foods that have their original, natural flavors and don't contain added MSG (Tumiwa-Bachrens, 2018). However, if we go back to that concept, perhaps not everyone would want healthy snacks. Healthy snacks are low in calories and rich in nutrients like protein, fiber, vitamins, and minerals. Healthy snacks are also best if they're low in fat and don't contain excessive amounts of sugar or MSG (Susetyawati & Santoso, 2023).

Nutrition is a crucial part of life because it influences life expectancy, health, and productivity. This issue becomes even more crucial when it comes to specific nutrition groups, particularly children. Inadequate nutritional intake in children can weaken the immune system, hinder physical growth, and inhibit cognitive development. Meanwhile, in adults, nutritional imbalances can trigger various lifestyle-related diseases, such as obesity. Every living creature requires energy and appropriate substances to support metabolic processes. However, if food consumption is dominated by high calories, the body can still experience malnutrition even if a feeling of fullness is achieved (Ciurzyńska et al., 2019).

There are reports that 88% of participants from all over the world, including Indonesia, stated that at least they consume Daily snack consumption reached 94% of younger participants. However, snacks consumed frequently tend to be viral snacks (Sukandar, 2024). Based on the data, survey (Edlong, 2024), of 2,000 consumers aged 18 and over, only 39% of respondents said they avoided high-sugar snacks.



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Furthermore, 67% of consumers aged 18 to 34 stated that product taste and aroma were their priority, and across all age groups, 72% of consumers prioritized taste over convenience.

According to (Telemed, 2021), healthy food is food that contains the diverse and balanced nutrients the body needs. These nutrients include protein, carbohydrates, fats, vitamins, minerals, and water. Consuming healthy food daily will help boost the immune system. In addition to consuming healthy foods, it's also important to pay attention to portion sizes and how they're prepared (Pratiwi, 2020). Unhealthy foods include foods fried in a lot of oil, containing excessive sugar or salt, or containing preservatives or artificial colors.

The food we enjoy will make us happy and have a positive impact on our bodies, which is the goal of keeping us healthy and able to carry out activities. According to (Astuti, 2024), He explained several reasons why people consume unhealthy snacks, namely they are easy to find, taste good, are cheap, addictive, and are considered enjoyable. This causes some consumers to prefer unhealthy snacks to consume rather than healthy snacks.

This occurs due to consumer perception. According to Riadi (2022), consumer perception is the behavior of consumers in knowing, remembering, interpreting, and choosing an object that has personal truth, preceded by a selective sensing process. It is also a process of selecting, organizing, and interpreting. Consumer perception plays a significant role in determining purchasing decisions. Various aspects such as taste, price, packaging design, brand identity, and experience when using a product also shape how consumers evaluate a product (Waradana et al., 2025). One factor that influences consumer perception is past experience. The experience in question is the consumer's experience in consuming the product. Therefore, consumer perception is important because it will influence the thoughts of individuals and outsiders about the product (Subakti et al., 2018).

Previous research by (Saputra, 2019) showed that taste is the primary consumer preference. Another study by (Okpiaifo et al., 2023) showed that consumer preferences for healthy snacks vary by product, even when the products have similar health benefits. There was a significant positive relationship between the desire to consume healthy snacks/drinks and personality characteristics, health awareness, and several demographics. This study provides important insights for policymakers and informs marketing campaigns to more effectively promote healthy snacks in the US.

Regarding the issue in Batam, observations revealed that some consumers consume unhealthy foods, particularly in the form of snacks. This is because consumers perceive healthy snacks as less tasty. In situations where healthy snack options are limited, consumers often tend to choose unhealthy snacks. Consume Snacks containing saturated fat, excess sugar, MSG, and preservatives can have negative health impacts. Accessibility Access to healthier snacks is also a challenge due to the limited number of healthy snack options available in Batam. Therefore, the key issues to address are how to change consumer perceptions of healthy snacks and increase their availability in Batam, potentially meeting the needs of the community. Furthermore, education on healthy snacks can be provided through social media.

METHODS

The data collection technique used in this study is a qualitative method aimed at gaining in-depth insights into consumer perceptions and market trends in the healthy snack industry. Data collection techniques include in-depth interviews and participant observation. In-depth interviews aim to explore consumer perceptions, their expectations for healthy snacks, and their views on chips available in the market (Creswell & Creswell, 2017). Interviews will be conducted with potential consumers to gather comprehensive

information. In addition, participant observation will be conducted to understand consumer consumption patterns and behavior directly, as well as to observe how healthy snacks are accepted in everyday contexts (Spradley, 2016). The target consumers are Batam residents aged 15-29 years.

This research will also use a design thinking approach, which involves several stages, such as empathize, define, ideate, prototype, and test. The empathize stage is conducted to understand consumer needs and challenges (Samuel, 2021). In this process, researchers will conduct observations and interviews to gain in-depth understanding of user needs and the problems they face regarding healthy snacks. Next, the define stage will formulate problems and opportunities based on the insights gained from the empathize stage. Define is the second stage of design thinking, where all the needs and information obtained from users in the empathize stage will be collected and analyzed (Sutanto et al., 2022). At this stage, researchers will identify and define the main problems and opportunities that can be taken to develop solutions that suit consumer needs.

In the ideate stage, various solutions and concepts for healthy chip products will be developed. The ideate stage is the third stage of design thinking, which focuses on the process of generating creative ideas for designing solutions. At this stage, various ideas and solutions will be developed to solve the problems identified in the empathize stage. Ideate aims to generate innovative opinions, suggestions, and input that can be implemented in the design of healthy chips. This process involves brainstorming and exploring various concepts to find the best solution that suits consumer needs and perceptions. This process involves brainstorming and exploring various concepts to find the best solution that suits consumer needs and perceptions (Madawara & Tanaem, 2022).

The prototype stage involves creating a scaled-down version of the product, either as a simulation or sample. Prototypes can be sketches, paper mockups, digital mockups, or other forms. These prototypes are designed for testing and provide an initial understanding of how the product will function and be received by consumers (Madawara & Tanaem, 2022). After the prototype is developed, the next stage is the production stage. A design thinking test will be conducted to evaluate consumer acceptance of the prototype. This test is the stage where the prototype is randomly tested by users. Users will provide feedback and suggestions based on their experiences, which will then be analyzed to make improvements and refinements to the product. User feedback will be used to enhance the product's quality and effectiveness before its final launch. This design thinking approach is expected to produce healthy chips that are effective and meet consumer expectations.

RESULTS AND DISCUSSION

The following are the results of the discussion regarding the establishment of a healthy snack business using qualitative methods:

Interviews, Observations and In-Depth Research Using Empathy Maps

The initial step is to conduct interviews, observations, and in-depth research using an Empathy Map. An Empathy Map is a visual tool designed to deeply understand consumer perspectives and experiences. This tool helps detail four key aspects of the consumer experience: what they say, think, feel, and do. Using an Empathy Map, researchers can collect and organize information from observations and interviews.

Table 1. Interviews and Answers

No.	Question	Answer
1.	What do you think about healthy snacks?	1. Christina (18 years old): I think there are not many healthy snacks to be found in Batam. 2. Deni (22 years old): Healthy snacks are not that tasty. 3. Tiara (24 years old): Healthy snacks are delicious but not enjoyed by many people in the area because they are not widely available and many people prefer snacks that contain MSG.
2.	Do you prefer snacks that have a lot of MSG in them compared to healthy snacks?	1. Christina (18 years old): Yes, because it tastes really good. 2. Deni (22 years old): Yes, because it's addictive. 3. Tiara (24 years old): Yes, because I really like it.
3.	So what do you think about creating a healthy yet delicious snack product?	1. Christina (18 years old): That is a very interesting idea and will be beneficial for health. 2. Deni (22 years old): It would be great if there were healthy but delicious snacks sold in the local area. 3. Tiara (24 years old): It would be great if there were healthy snacks that could attract consumers' attention in terms of taste and also change the mindset that healthy snacks are not always bland or not tasty.

Source: Processed data (2023)

Empathy Maps are used to deeply explore consumer needs, problems, and desires. By mapping this information, researchers can gain a comprehensive picture of what consumers face and how they interact with existing products or services. This tool provides valuable insights into various aspects of the consumer experience, which in turn helps design more relevant and effective solutions.

Table 2. Empathy Map**COGNITIVE EMPATHY**

Person: Consumers aged 15-29 years who like healthy snacks and are concerned about health (do not contain MSG), domiciled in Batam.

AFFECTIVE EMPATHY**Say:**

"I find snacks that contain a lot of MSG delicious and addictive."

Think:

Feel there is nothing wrong consumesnacks containing MSG.

Do:

Search the nearest snack shops to find the desired snacks.

Feel:

Feeling worried because snacks containing MSG will have a bad impact on health.

Pain:

Having trouble finding healthy snacks that don't contain MSG.

Gain:

Hoping there are sellers who can produce healthy yet delicious snacks.

Source: Processed data (2023)

The Empathy Map shows that target consumers perceive unhealthy snacks, such as those containing excessive amounts of MSG, as much tastier and more addictive than healthy snacks. Furthermore, finding healthy snacks free of additives like MSG is a challenge. They often express that healthy snacks on the market don't meet their taste expectations, especially when compared to regular snacks containing MSG and other additives. Consumers feel frustrated and worry that available healthy snacks may not be as tasty as regular snacks, which raises doubts about whether the products can meet their taste perceptions. Therefore, consumers' primary expectation is to find manufacturers who can offer snacks that are not only healthy but also tasty, and

completely free of MSG and chemical additives. Target consumers are also divided into several groups, namely: (1) School Children: 15-18 years; (2) Students: 19-22 years; (3) Workers: 23-29 years.

Define Level

After conducting interviews and observations using the Empathy Map, the next stage is the Define stage, where the main problems will be identified and defined and existing solutions will be developed.

Table 3. Define The Problem Canvas, 2023

Problem context/theme : Consumer perception in Batam is that healthy snacks are not tasty.	
Symptom : Many consumers enjoy snacks. However, Focusing on the "Problem" section, which is changing many of these snacks contain high consumer perceptions of healthy snacks, researchers amounts of MSG. This is because some will introduce a healthy yet delicious snack and educate consumers perceive healthy snacks as consumers about it. less tasty.	The Level of The Problem I Choose To Solve :
Problem : Lack of healthy snack options that meet consumer standards (tasty).	Project Statement : This project was carried out with the hope of changing the perception of Batam-based consumers (aged 15-29) that not all healthy snacks are bad. Therefore, it is hoped that consumers will choose healthier snacks for consumption.
Root Cause : This is because consumers prefer unhealthy snacks because they taste good and are addictive.	

Source: Processed data (2023)

This process begins by identifying problem symptoms, such as the large number of consumers who enjoy snacks containing lots of MSG and perceive healthy snacks as unpalatable. The next step is to analyze the root cause of the problem. The main cause of this problem is that consumers prefer snacks with high MSG content because they taste delicious and are addictive. After understanding the underlying cause, researchers will focus on changing consumer perceptions of healthy snacks. Therefore, researchers will introduce a healthy snack that meets consumer standards and provide consumer education regarding healthy snacks. This is expected to change consumers' perceptions regarding healthy snacks and encourage them to choose healthier snacks.

Ideate Level

The next stage is Ideate, which focuses on finding innovative solutions to the identified problems. In this stage, various creative ideas are developed to solve the problem, with the aim of encouraging innovation without boundaries. Brainstorming is a key technique in this stage, where ideas are gathered creatively and without prior judgment. During the brainstorming process, as many ideas as possible are gathered to explore possible solutions. From the ideas generated, the author decided to develop healthier potato chips using a baking technique as a solution to address the problems raised. This technique was chosen because potato chips are very popular but often perceived as unhealthy. By baking, it is hoped that a snack lower in calories and fat can be created, meeting consumers' desire for healthy snacks that are still tasty and practical. The main problems faced by consumers, such as packaging without complete information, difficulty finding healthy snacks, and snacks containing high levels of MSG and preservatives, are addressed by the product being developed. The product being developed is "Potayou" (Potayou).".

Potayou offers baked potato chips that are safer and healthier, with packaging that provides comprehensive information, is easy to find, and uses high-quality ingredients with minimal MSG. This product also offers consumer benefits: guaranteed healthier, has a great taste, is easily found both offline and online, and is available in sweet and spicy flavors. Thus, Potayou provides a comprehensive solution that not only meets consumers' needs for healthy snacks but also provides a satisfying experience.

Prototype Stage

The next stage is to create a prototype, which is an initial model or sample of a product to test a concept or process. The purpose of a prototype is to evaluate and refine an idea before mass production, ensuring the product meets consumer needs and expectations. In business, Potayou Prototyping involves several important steps. First, choosing a business name and designing an attractive logo. Presenting product well. The name "Potayou" was chosen because the main ingredient of this product is potato, and the word "you" implies that this product is specifically made to meet consumer needs. This name reflects the essence of the product and gives a personal and friendly impression to consumers. After determining the brand name, the next step is to design a business logo. A simple yet strong logo design, with appropriate graphic elements and colors, will help create a visual identity that is easily remembered and recognized by consumers. This logo will be used on product packaging, marketing, and digital platforms to ensure brand consistency across various channels.

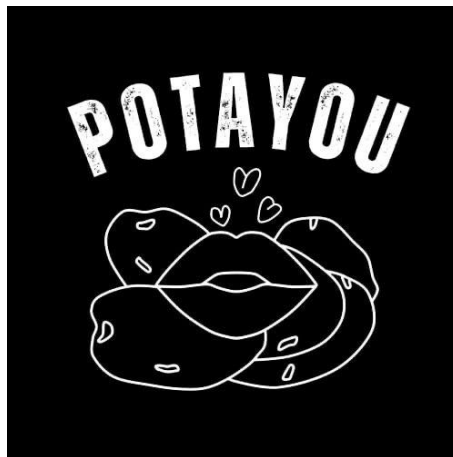


Figure 1. Logo

Source: Processed data (2024)

Second, developing a healthy potato chip recipe using a baking technique, chosen because it reduces oil and fat content, resulting in a healthier snack compared to frying. The focus is on selecting high-quality raw materials to ensure a delicious, safe, and healthy taste. The ingredients used include 1 kg of small potatoes, half a kilo of garlic, red and curly chilies, brown sugar, granulated sugar, salt, tamarind water, olive oil (BERTOLLI), and lime leaves.



Figure 2. Raw Materials
Source: Processed data (2024)

The process begins with preparing the ingredients and tools, peeling and cleaning the potatoes, then cutting them into chips. The potatoes are then baked in the oven for 15 minutes or until the chips are golden or crispy, with the oven temperature set at around 232°C and a large baking sheet coated with cooking spray. While the oven is baking, the seasoning is made by mixing all the ingredients and blending until evenly distributed. Afterward, the seasoning is mixed with the crispy potatoes and stirred until evenly distributed. The sweet and spicy potato chips are ready to be served.



Figure 3 Business Products
Source: Processed data (2024)

The next step is to design a marketing strategy. An effective marketing strategy is essential to ensure the product Potayou can be widely recognized by consumers and well-received in the market. Instagram was chosen as the primary marketing channel for this business.

Testing Level

The next step is the product testing phase after the product is ready for marketing. Testing results from five random consumers showed that the potato chip snack "Potayou" has an attractive visualization and attracts consumers' attention. However, there are several aspects that need to be improved, such as the level of product hardness which still needs to be increased to be crispier and the taste which is considered still less balanced.

Nevertheless, this product has met existing trends with its unique flavor and the absence of preservatives or MSG, as well as processing techniques that reduce cholesterol levels. Therefore, the author made changes to the prototype including adjusting the seasoning ingredients, such as reducing the amount of cayenne pepper from 8 cloves to 5 cloves, adjusting the amount of sugar and salt, and improving the baking process by applying the seasoning after the potatoes are cooked. These improvements aim to perfect the product to better suit consumer perceptions and produce tastier and higher-quality potato chips.

Implementation Stage

After testing and refining the product, the next stage is the product implementation process. This process involves launching the product to the market by following a predetermined marketing strategy. The "Potayou" potato chips will be intensively promoted through Instagram in accordance with the established marketing strategy. This includes posting engaging visual content, sharing product information, and interacting with followers to build brand awareness and attract consumer interest. Furthermore, to reach a wider consumer base, the product will also be available offline at Sriwangi Coffee Shop. Placing the product in this location will help increase visibility and make it easier for consumers to try and purchase the chips Potayou directly.



Figure 4. Potayou Social Media Account

Source: Processed data (2024)

The marketed product has shown a positive response from customers. Several customers have shown high interest in "Potayou" potato chips, as evidenced by the numerous inquiries they have made via direct messages (DM) on Instagram. Furthermore, at the Sriwangi Coffee Shop offline store, the product is available. Potayou was also well-received by consumers. Many customers purchased the potato chips and enjoyed them with their main meals, indicating that the product not only caught their attention but also resonated with their consumer perceptions.



Figure 5. Testi

Source: Processed data (2024)

This response demonstrates that the product meets consumer needs and perceptions. This confirms that the process, which begins with in-depth consumer understanding and continues through prototype development and marketing strategy, is effective in producing a relevant and desirable product in the market. Furthermore, consumer education about healthy snacks will be provided, which will be uploaded to social media platforms, including Instagram.



Figure 6. Educational Poster About Healthy Snacks

Source: Processed data (2024)

CONCLUSION

Some people think healthy snacks are tasteless and bland, but healthy snacks are actually low in calories, contain essential nutrients, and are low in fat. Various studies show that many people, especially young people, consume People often snack every day, but the snacks they consume often tend to be trending snacks. Healthy food is said to include balanced nutrition and can boost immunity. Furthermore, it's important to pay attention to portion sizes and food preparation methods to maintain good health. Consumers often choose unhealthy snacks because they are easy to find, tasty, inexpensive, addictive, and considered enjoyable. This is influenced by consumer perception, which is a process of selective sensing, experience, and object selection. The problem in Batam is the lack of accessibility to healthy snacks. Therefore, this study hopes to change consumer perceptions in Batam regarding healthy snacks by increasing their availability and providing education about them.

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