

## ***Examining Consumer Motivation and Behavior in Supporting Frozen Food Businesses During Market Shifts or Crises***

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### **A B S T R A C T**

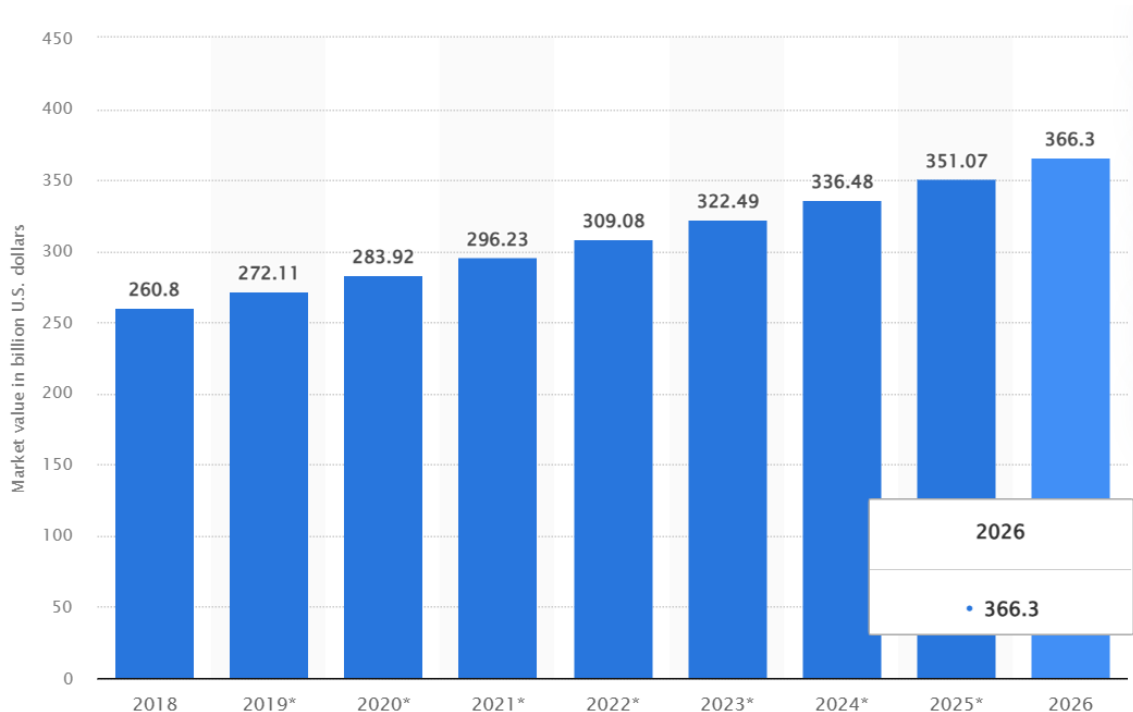
*This study investigates the factors influencing consumer purchase decisions for frozen food during and after the COVID-19 pandemic. A quantitative research design was employed, utilizing a 5-point Likert scale distributed to 70 respondents through purposive sampling. The independent variables examined were product price, product availability, and promotions, while the dependent variable was the decision to purchase frozen food. Data were analysed using Structural Equation Modelling (SEM) with SmartPLS software to identify significant trends and relationships. Results revealed that during the pandemic, price sensitivity was the most significant factor ( $\beta = 0.413, p < 0.05$ ), as consumers prioritized affordability due to economic uncertainty. Promotions also played a key role ( $\beta = 0.160, p < 0.05$ ), whereas product availability had minimal impact ( $\beta = 0.037, p > 0.05$ ) due to stable supply chains. Post-pandemic, price influence decreased slightly, while product availability gained prominence, reflecting a shift toward convenience and reliability. Promotions remained relevant, particularly among younger, tech-savvy consumers. This study highlights the dynamic nature of consumer behavior, shaped by external conditions and demographic factors. Businesses can leverage these insights by adapting strategies to evolving market conditions, focusing on affordability and trust-building during crises, and emphasizing supply chain robustness and product accessibility post-crisis. Policymakers are encouraged to support the industry through subsidies and public awareness campaigns promoting certified and safe products. Future research should explore emerging trends in health, sustainability, and technology within the frozen food market to inform long-term strategies and resilience.*

***Keywords: Frozen Food Purchase Decision, Consumer Behavior, Price Sensitivity, Promotions and Availability, Post-Pandemic Market Trends***

## INTRODUCTION

The global frozen food market has experienced rapid growth and transformation in recent decades, driven by shifts in consumer behavior, urbanization, and socio-economic dynamics. Consumers are increasingly adopting frozen foods as a staple in their diets, motivated by convenience, affordability, and the promise of longer shelf life. Saifullah et al. (2014) highlight the rising trend of frozen food consumption, particularly in urbanized regions, as a response to economic pressures, health concerns, and lifestyle changes. In Pakistan, for instance, frozen food consumption has grown significantly due to factors such as volatile inflation rates, the need for hygienic food options, and the rising cost of medical treatment for preventable illnesses. This shift has also challenged marketers to develop strategies that cater to diverse socio-economic segments and overcome infrastructural hurdles in the frozen food supply chain.

The frozen food industry has experienced significant growth in recent years, driven by changing consumer preferences and the convenience of frozen food (GÄSSLER, n.d.) With busy lifestyles and an increasing focus on health and wellness, consumers are turning to frozen food as a quick and easy meal solution. In this introduction, we will explore the key trends shaping the frozen food industry and growth opportunities in this market. The global frozen foods market is projected to expand by more than 40% between 2018 and 2026. Valued at \$260.8 billion in 2018, the market is anticipated to reach \$366.3 billion by 2026 (Statista, 2019).



**Figure 1.** The global growth of frozen food (Statista, 2019)

Brief history of consumer behavior in relation to frozen food. In the past, however, were often associated with being less nutritious and lower quality compared to fresh foods. However, advancements in freezing technology and packaging have improved the quality and taste of

frozen meals, making them a more appealing option for consumers. Additionally, the variety of frozen food options available in stores has expanded, catering to a wider range of dietary preferences and restrictions. As a result, more consumers are incorporating frozen foods into their meal planning and shopping habits. (PEREIRA, n.d.).

Importance of understanding consumer motivation in supporting frozen food businesses during market shifts. Understanding consumer motivation is crucial for frozen food businesses to adapt to market shifts and maintain a competitive edge (Tidd & Bessant, 2013). By knowing what drives consumers to choose frozen meals over fresh options, companies can better tailor their products and marketing strategies to meet the needs and preferences of their target audience. This insight can also help businesses anticipate and respond to changing consumer trends, ensuring that they remain relevant and successful in a rapidly evolving market.

Additionally, understanding consumer motivation can also lead to the development of new and innovative products that cater to the specific desires of consumers. By staying attuned to consumer preferences and behaviors, frozen food businesses can stay ahead of the competition and continue to attract and retain loyal customers. Ultimately, investing in research and analysis of consumer motivation can be the key to long-term success and sustainability in the frozen food industry (Thomas et al., 2018).

Similarly, Sen et al. (2019) explore the factors influencing consumer decisions to purchase ready-made frozen food (RMFF). Their study identifies demographic variables such as age, gender, and income, as well as product attributes like safety, ease of preparation, and affordability, as significant determinants of purchase behavior. The research underscores the increasing participation of women in economic activities and the growing prevalence of nuclear families as drivers of demand for RMFF, particularly in urban settings. The study also highlights the role of branding, taste, and availability in shaping consumer preferences, while noting that packaging and time-saving features have less influence on purchase decisions.

The convergence of these trends illustrates a global shift in food consumption patterns, driven by urbanization, economic pressures, and evolving consumer expectations. This paper builds on these foundational studies to examine the interplay of socio-demographic factors, product attributes, and external economic conditions in shaping frozen food purchase decisions during and after the COVID-19 pandemic. By integrating insights from both studies, this research aims to provide a comprehensive understanding of the frozen food market's evolution and its implications for businesses and policymakers.

Driven by changing consumer lifestyles, the frozen food industry has experienced significant growth in recent years. Prioritizing convenience and time efficiency. However, the frozen food market is highly affected by dynamic market conditions, such as economic crises, natural disasters, or global pandemics, which can drastically change consumer behavior. The COVID-19 pandemic, as a real-life example, has caused a major shift in consumption habits, with many

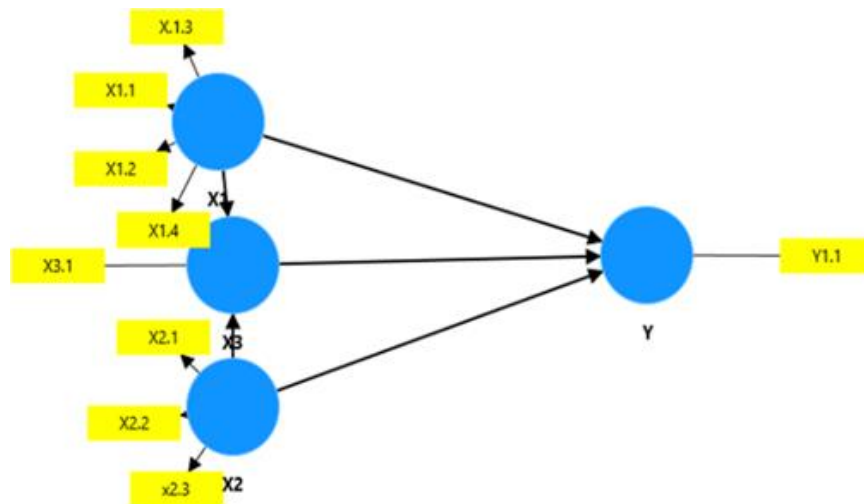
consumers shifting from buying fresh food or eating out to buying frozen food to accommodate a more stay-at-home lifestyle (McKinsey & Company, 2020).

Such crises create significant uncertainty in consumer consumption patterns and purchasing decisions, thus affecting how frozen food businesses can maintain or increase their sales. Although frozen foods are often chosen for their convenience, the lack of understanding of the factors that influence consumer purchasing decisions during a crisis leads to important questions regarding consumer motivations and behavior that need to be answered. Some of the issues that arise: what are the main factors that influence consumers' decisions to purchase frozen food products during market shifts or crises? How does consumer behavior toward frozen food change in the context of market uncertainty? What drives consumers to choose frozen food products amid changing market conditions and crises?

For example, many consumers have turned to frozen food products during the pandemic, but what really drives this decision? Are convenience and shelf-life factors more dominant than price or product quality? Furthermore, while some frozen food businesses have seen a surge in demand during the crisis, the question is whether this is a temporary phenomenon or a long-term shift in consumption behavior. Therefore, a deeper understanding of consumer motivations and behaviors in supporting frozen food businesses during market shifts or crises is critical, especially to inform more effective marketing strategies and product development.

This study aims to answer these questions by analysing consumer motivations and behaviors that underlie their support for the frozen food industry during crises or market shifts, and to provide insights to industry players in designing more effective marketing strategies. Therefore, this research examines the impact of Ready-Made Frozen Food (RMFF) businesses on consumer purchasing decisions during and after the COVID-19 pandemic. The study identifies product price, product availability, and promotion as the independent variables influencing consumer behavior, with frozen food purchase decision as the dependent variable. By analysing shifts in consumer preferences during the pandemic, the research investigates how these factors—price sensitivity, access to products, and promotional strategies—affected the demand for frozen foods. Additionally, the study explores whether these factors continue to influence consumer behavior in the post-pandemic period and how businesses can adapt their pricing, availability, and promotional strategies to enhance purchase decisions and maintain growth in the evolving market.

## RESEARCH METHODS



**Figure 2.** Research Framework of Purchase Decision of Frozen Food

The research design used for this study is quantitative, utilizing a Likert scale of 5 that was distributed to 70 respondents through Google Form. The sampling method was purposive sampling with the criteria of respondent was consumer of frozen food during and after pandemic. The methodology briefly outlines the subject and object of the research, operationalization of variables, population and sample, sampling method, and statistical tests applied in the study. This rigorous approach aims to gather reliable data and insights into consumer behavior and preferences within the ready-made frozen food industry. By analysing the results of this research, enterprises, especially SMEs in RMFF can make informed decisions to improve their products and services, ultimately staying ahead of the competition and meeting the needs of their target market. The data collected was analysed using statistical tests structural equation modelling (SEM) with SmartPLS software to identify any significant trends or patterns (Fig.2). The independent variables were X1 (Product Price), X2 (Product Availability), X3 (Promotions), while dependent variable was Y (Frozen food purchased decision).

### Price (X1)

The study by Kyntani et al. (2022) identified price as a significant factor in purchasing decisions, especially for frozen food during the pandemic. Consumers used price as an indicator of product quality, influencing their decision to buy frozen food. Similarly, the research by Jaya and Ekasari (2021) highlighted the role of price perception in shaping consumer purchasing intentions. Price sensitivity and affordability play a critical role in consumer decision-making for health-related products, including frozen foods.

Hypothesis 1 (H1): Price positively influences consumer purchasing decisions for frozen food

products.

### **Product Availability (X2)**

Aprilia et al. (2021) stressed the importance of product availability, noting that easy access and the convenience of acquiring processed foods were significant drivers during the pandemic. The demand for products that can be stored and used over time increased. Kyntani et al. (2022) also underscored the practical and durable nature of frozen foods as a key attribute influencing consumer decisions during limited mobility periods like lockdowns.

Hypothesis 2 (H2): Product availability positively influences consumer purchasing decisions for frozen food products.

### **Promotion (X3)**

Jaya and Ekasari (2021) emphasized the role of strategic marketing efforts in driving awareness and influencing consumer behavior. Promotional activities tailored to consumer lifestyles and needs were deemed critical. Kyntani et al. (2022) supported this, noting that effective promotional channels, such as social media, significantly impact consumer knowledge and preference for frozen food products.

Hypothesis 3 (H3): Promotion positively influences consumer purchasing decisions for frozen food products.

The research objective is to identify factors that influence consumer decisions in purchasing frozen food products during a crisis or market shift. This objective aims to understand how changes in external situations, such as economic crises or pandemics and after the pandemic, affect consumers' choice of frozen food products. By examining the relationship between variables and consumer preferences, SMEs can tailor their marketing strategies and product offerings to better meet the demands of their target audience. Overall, this research aims to provide valuable insights that can help companies in the frozen food industry stay competitive and adapt to changing consumer preferences.

**Table 1.** Operational variables of the research

| Type of Variable     | Variable   | Description   |
|----------------------|--|---|
| Independent Variable | X1: Product price (Kyntani et al., 2022)                                     | Factors that influence purchasing decisions, such as the price of frozen food products          |
|                      | X2: Product availability (Elita Dewi et al., 2021)                           | The availability of frozen food products in the market that can influence purchasing decisions. |
|                      | X3: Promotion (discount, cashback, etc) (Ekasari & Jaya, 2021)               | The influence of promotions or discounts offered on frozen food products.                       |
| Dependent Variable   | Y: Frozen food purchase decision (Helliwell et al., 2021) (Sen et al., 2021) | The decision to purchase frozen food products, which is influenced by independent variables.    |
| Control Variable     | Age  | To control the influence of age on purchasing decisions.  |
|                      | Gender   | Controlling differences in decisions based on the respondents' gender.                          |
|                      | Pandemic period  | Controlling the impact of the pandemic condition on purchasing decisions.                       |
|                      | After the pandemic   | Controlling the impact of post-pandemic conditions on purchasing decisions.                     |

## RESULTS & DISCUSSION

### Results

The structural equation modelling (SEM) analysis was conducted to assess factors influencing frozen food purchase decisions during the pandemic and after the pandemic. The outer model analysis confirmed the reliability and validity of the constructs. Most indicator loadings exceeded the threshold of 0.7, ensuring strong representation of the latent variables. Cronbach's Alpha values ranged from 0.711 to 0.791, indicating acceptable internal consistency. The

Average Variance Extracted (AVE) values were above 0.5 for all constructs, demonstrating that the latent variables captured significant variance from their indicators. Discriminant validity, assessed using the Fornell-Larcker criterion and HTMT ratios, verified the distinctiveness of the constructs.

The inner model analysis revealed that product price (X1), product availability (X2), and promotion (X3) collectively explained 19.7% of the variance in frozen food purchase decisions (R-squared = 0.197). During the pandemic, price sensitivity had the most significant impact ( $\beta = 0.413$ ,  $p < 0.05$ ), reflecting consumer focus on affordability amid economic uncertainty. Promotions, including discounts and cashback, also played a key role ( $\beta = 0.160$ ,  $p < 0.05$ ), as consumers actively sought cost-saving opportunities. However, product availability had a minimal and non-significant effect ( $\beta = 0.037$ ,  $p > 0.05$ ), possibly due to relatively stable supply chains for frozen food during the pandemic.

After the pandemic, the results showed a shift in consumer priorities. While price remained a critical factor, its influence slightly decreased as economic conditions stabilized. The importance of promotions persisted, especially among younger consumers accustomed to online shopping. Product availability became more prominent after the pandemic, as consumers shifted back to demanding convenience and reliability in product access.

## Discussion

The global frozen food market has experienced significant growth in recent years, with its value increasing from \$260.8 billion in 2018 to a projected \$366.3 billion by 2026. This expansion reflects a compound annual growth rate (CAGR) of approximately 4.3% (Statista, 2019). This upward trend underscores the increasing consumer demand for frozen food products, driven by factors such as convenience, longer shelf life, and evolving lifestyle preferences.

During the pandemic, the frozen food sector witnessed a surge in demand as consumers sought convenient and long-lasting food options amid lockdowns and supply chain uncertainties. This period highlighted the importance of affordability and safety in consumer purchasing decisions, with price sensitivity and safety certifications playing pivotal roles (Himawan & Pasaribu, 2024; Marganus & Pasaribu, 2022). As the market continues to expand post-pandemic, businesses should adapt by emphasizing product availability and reliability to meet the evolving preferences of consumers (Statista, 2019). The sustained growth of the frozen food market presents opportunities for companies to innovate and cater to the changing demands of a global consumer base.

The findings highlight significant differences in consumer behavior during and after the pandemic. During the pandemic, convenience and long-term storage capabilities were the primary motivators for purchasing frozen food, consistent with findings by Patil & Bhakkad (2014), which emphasized price sensitivity and the appeal of cost-saving promotions during crises. Safety certifications, such as halal labels and BPOM approvals, were also critical in fostering consumer trust, as noted by Erickson & Hung (2012) (Hervina, R. D., Kaban, R. F., & Pasaribu, 2021). This trust was particularly important during the pandemic when concerns



about health and safety were heightened (Kyntani et al., 2022; Raheem, 2014; Syarifuddin et al., 2021).

Demographic analysis provides additional context. During the pandemic, middle-income earners aged 25–40 formed most respondents. Younger consumers were drawn to promotions, reflecting their familiarity with digital platforms and preference for online shopping. Meanwhile, middle-aged respondents prioritized affordability, reflecting household budget constraints during economic uncertainty.

After the pandemic, consumer behavior evolved. While price sensitivity remained important, the urgency decreased as financial conditions improved. Promotions continued to attract younger consumers, but product availability became more influential across all demographic groups. This shift highlights consumers' increasing preference for convenience and reliability as they transitioned back to pre-pandemic routines (Hidayat & Pasaribu, 2023; Himawan & Pasaribu, 2024).

These findings have significant implications for businesses and policymakers. For businesses, strategies should evolve to address changing consumer needs. During crises, frozen food businesses should focus on price-driven promotions and emphasize safety certifications to build trust and attract cost-conscious consumers. After crises, maintaining robust supply chains and ensuring product availability become critical to sustaining consumer satisfaction. Policymakers can support businesses by promoting certified and safe food products through public awareness campaigns and subsidies. These efforts can enhance consumer confidence and stabilize the market. As Palmatier et al. (2017) noted, resilience and adaptability are essential for navigating volatile market conditions.

This study underscores the dynamic nature of consumer behavior during and after crises. By addressing affordability, safety, and availability, frozen food businesses can effectively respond to changing market conditions and build long-term resilience. This Table 2 highlights how the motivations and factors influencing frozen food purchase decisions shifted from the height of the pandemic to the recovery period, reflecting evolving consumer priorities and market dynamics.

**Table 2.** Consumer Behavior of Frozen Food During and After Crisis

| Aspect                    | During the Pandemic  | After the Pandemic  |
|---------------------------|--|---|
| <b>Primary Motivators</b> | Convenience and long-term storage capabilities were key drivers for purchasing frozen food.                          | Convenience remained important, but reliability and consistent product availability became prominent. |
| <b>Price Sensitivity</b>  | Significant influence ( $\beta = 0.413$ , $p < 0.05$ ); affordability was prioritized due to economic uncertainties. | Continued importance, though slightly diminished as economic conditions stabilized.                   |

|                                 |   |  |
|---------------------------------|---|--|
| <b>Promotions</b>               | Strong influence ( $\beta = 0.160$ , $p < 0.05$ ); discounts and cashback were highly effective in attracting buyers.     | Promotions remained relevant, especially for younger, tech-savvy consumers.                          |
| <b>Product Availability</b>     | Minimal influence ( $\beta = 0.037$ , $p > 0.05$ ); relatively stable supply chains reduced the urgency for availability. | Increased importance as consumers began prioritizing convenience and reliability.                    |
| <b>Safety Certifications</b>    | Critical in establishing trust, particularly halal labels and BPOM approvals.   | Continued to play a role but were slightly less emphasized as health concerns eased.                 |
| <b>Consumer Behavior Trends</b> | Middle-income consumers focused on affordability, with younger individuals responding to promotions.                      | Broader emphasis on convenience and accessibility across all demographic groups.                     |
| <b>Business Implications</b>    | Focus on price-driven promotions and trust-building through certifications.   | Emphasize robust supply chains and consistent product availability to sustain consumer satisfaction. |
| <b>Policy Implications</b>      | Promote food safety and affordability through public awareness campaigns and subsidies.                                   | Support businesses in stabilizing supply chains and maintaining availability during market recovery. |

## CONCLUSION & SUGGESTION

### Conclusions

The frozen food industry has undergone significant transformation, particularly during and after the COVID-19 pandemic. Key motivators such as convenience, affordability, and safety certifications like halal labelling influenced consumer decisions during the pandemic. The industry saw increased demand driven by economic pressures and changes in consumer lifestyles, as frozen foods offered long-term storage solutions and reduced health risks associated with fresh food handling.

Post-pandemic, consumer priorities shifted toward convenience and reliable product availability, reflecting stabilized economic conditions and a return to pre-pandemic routines. Younger, tech-savvy consumers continued to respond to promotions, while middle-aged demographics prioritized affordability and accessibility. The findings confirm that price, promotion, and product availability are critical factors in shaping consumer behavior, with their importance varying based on external market conditions and demographic preferences.

Businesses that adapt their strategies to these evolving priorities can sustain growth and build long-term resilience.

### **Suggestions**

Frozen food businesses should adapt their strategies to address evolving consumer preferences and market conditions. During crises, companies should prioritize affordability by offering price-driven promotions such as discounts and cashback to attract cost-conscious consumers. Trust-building initiatives, including the use of safety certifications like halal labelling, should also be emphasized to reassure customers concerned about health and safety. Post-crisis, businesses should focus on ensuring robust supply chains and reliable product availability, as these factors become increasingly important to meet the demand for convenience and accessibility. Marketing strategies should leverage digital platforms to target younger, tech-savvy consumers while simultaneously addressing affordability concerns for middle-income households. Furthermore, innovation in product development is essential to cater to diverse dietary needs and align with growing trends in health and wellness, such as organic or functional frozen food options.

Policymakers can support the industry by implementing public awareness campaigns to promote certified and safe food products, as well as subsidies to maintain affordability during economic uncertainties. Investments in infrastructure improvements are crucial for stabilizing supply chains and ensuring product availability, particularly in urban and underserved areas. These efforts can enhance consumer confidence and foster a more resilient frozen food market.

For future research, studies could explore the long-term impacts of health and sustainability trends on frozen food purchasing behavior, particularly focusing on consumer attitudes toward organic and eco-friendly frozen products. Another promising area is the role of technological advancements in supply chain management, such as the integration of artificial intelligence and blockchain, to enhance product availability and traceability. Investigating regional variations in frozen food consumption patterns and preferences could also provide valuable insights for tailoring strategies to specific demographic and cultural contexts. These avenues can contribute to a deeper understanding of the frozen food industry and its potential for sustained growth in a dynamic global market.

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