

Reasons for Booming Frozen Food Industry: Critical Analysis of Past, Present and Future

Aakriti Jain¹, Adeesh Jain²

Abstract: *In this paper, the primal focus has been given to the advent of the frozen food industry, focusing on the trends that have been prevalent in the past, being witnessed in the present and that are expected to be seen in the coming future. Through this research paper, we tend to acknowledge the operational mechanism that has been in place till now to delve deeper into the organisational structure focusing on the longevity of the food items and consumables that come to your plate. Additionally, adequate focus has been shed on the preservation tactics, need for frozen food and how in the current scenario the need for such items has surged in the market. This paper through the intricacies noted in the frozen food industry aims at providing knowledge for greater access, increased affordability and contemporary utilisation of the commodities provided by the frozen food industry.*

Keywords: Frozen food industry, lifestyle changes, pandemic, economic growth

1. Introduction

Humans have long used food preservation techniques to keep their food supplies from spoiling. The tradition is inspired by the abundance of food during the clement season and the scarcity of food throughout the winter.

Drying, salting, and smoking are some traditional methods of preservation. However, since it can't be utilised to preserve various foods like vegetables, fruits, and raw meat or seafood, technological innovation has supplanted such procedures. Because both cooked and uncooked food products may be preserved in refrigerators and freezers, their usage has improved food preservation in the industrial period.

Foods that are maintained at low temperatures for later use include convenience foods, fish, meat, poultry, vegetables, and more. These foods are referred to as frozen foods.

They are frequently utilised in place of fresh foods and prepared meals. The most popular frozen food items are frozen meat and seafood, both of which are widely accessible in supermarkets.

The demand for frozen food is driven by convenience. The increase in disposable money, health advantages, accessibility in retail establishments, and the growth of working women are further motivating factors.

2. Methodology

Due to the lack of availability of pure quantitative data this research paper has mainly followed qualitative research backed by pieces of quantitative evidence, whatever was available.

1) Product Innovations in the Frozen Food Segment

The desire for more upscale, environmentally friendly, and healthy goods is on the rise, which is promising news for the frozen food sector. There are strict standards for product quality, flavour, provenance, and moral brand behaviour. According to a recent Nielsen poll, 78 percent of Generation Z and 81 percent of millennials are prepared to spend extra

for food that lives up to these standards. Millennials are more inclined to spend money with environmentally friendly companies that sell high-protein, organic, and fair-trade goods.

Numerous improvements have also been brought forth by the segment's expansion. We'll look at a few of them now.

a) Innovation in Products

The expanding product selection is one of the innovations that is most obvious. Foods that were frozen up until a few years ago included fish, chicken, snacks, and veggies. Mainstream meals like pizza, biryani, and meal replacements are now included in the category of frozen foods. Changes in lifestyles, an increase in dual incomes, lengthy workdays, and less home time have all contributed to the development of novel goods by food producers. For instance, Sumeru recently introduced kebabs, shredded coconut, and Michelin star-curated meals to the home market, to mention a few. Frozen momos were the most latest to be introduced. This would be the first product of its sort to be released by an Indian national FMCG brand.

b) Modern Technologies

The freezing process is the most crucial factor for frozen meals. Over time, this technology has changed. The IQF, or Individual Quick Freezing, is now the most sought-after freezing technology. It stands for fast freezing of individual product components as opposed to bulk or block freezing, as the name would imply. Up to the point when it reaches the consumer's table, it maintains the food healthy and fresh. Enzymes produced by fresh vegetables lead to nutritional, flavour, and colour loss. Simple freezing results in the production of sizable ice crystals inside the cells of the produce, which causes loss of flavour, texture, and nutrients. However, IQF inhibits enzyme activity and prevents the growth of big ice crystals in produce cells, maintaining the produce's flavour, texture, and nutritional content. The user doesn't have to deal with a single frozen food block and can really see and use each individual item, which is the true cherry on top. All food products, including vegetables, meat, seafood, and even simple snacks, are appropriate for IQF.

Sumeru adheres to rigid standards for cold chain logistics. Our trucks are equipped with GPS-enabled temperature-

controlling devices that enable us to track and monitor the temperature of the cars that are transporting these goods from a distance.

c) Packaging

Packaging is a vital part of this sector. One of the advancements in the food sector is flexible packaging. Multiple-layered laminated sheets comprising a single or a mix of substrates, such as plastic, paper, or aluminium foils, are used in flexible packaging. Flexible packaging has a variety of roles in keeping goods secure, increasing shelf life, preventing contamination, assuring safe storage, and maintaining customer accessibility.

d) Logistics in a Cold Chain

Foods that are frozen by definition require durable packaging. Therefore, adequate transportation is required all the way to the end. The cold chain is crucial in a nation like India where infrastructure is one of the biggest problems. In 2018, the Indian cold chain market had a value of INR 1, 121 billion. By 2024, the market is expected to reach INR 2, 618 billion, expanding at a CAGR of 14.8% from 2019 to 2024. The secret to delivering frozen items quickly is fleet expansion.

e) Super-and hypermarkets' emergence

The expansion of the food industry has also accelerated the development of supermarkets and hypermarkets. The necessary space and infrastructure for the storage of frozen goods are provided by large format supermarkets and hypermarkets. Such large-format supermarkets are the go-to for groceries and food shopping for today's discriminating consumer. Frozen food is widely available in western markets, where Indian consumers buy anything from fish to jackfruit seeds.

More disruption than ever before is being seen across the board in the frozen food industry. Frozen food producers must make major R&D and innovation investments to counteract this disruption and create goods that answer customer concerns about origin, health, and nutrition.

Being local while thinking globally is the adage of the day. A good trend in the food industry will always be visible as the environment and customer views evolve. Internationally successful Indian companies are emerging as global trends catch up with them.

Particularly in the frozen food sector, new product options and disruptions are occurring across the board. Although consumer misconceptions will gradually dissipate, it is up to the companies in this category to increase customer confidence in frozen food and the sector as a whole. This just got started.

2) Convenience

Convenience has always been a factor with frozen meals. According to Supermarket News, prepared dinners started to become widely accepted in the 1950s and have maintained their appeal as more women started working outside the home and families were busier with extracurricular activities. From turkey and masked potato TV dinners and frozen sweet corn to plant-based beef burritos and zucchini

fries, frozen meals have changed over the past seven decades. In recent years, consumers have increased their online frozen food purchases. According to the American Frozen Food Institute, 42% of households purchased frozen foods online between 2020 and 2021, a 19% increase over 2018. Online sales of frozen meals rose by 75% in 2020.

As frozen goods need less time and effort to prepare than fresh meals, the rising customer preference for convenience foods indirectly benefits the rising demand for them. Because of customers' busy lifestyles, there is a rising need for convenience in the processed food business. In turn, this raises consumer demand for frozen goods. Because it boosts customers' purchasing power, rising disposable income is another such element that has a significant impact on the expansion of the frozen food business.

The influence of gender in frozen food purchases-Gender is a very important factor. Women-they love shopping even when they have a deadline, men-they shop and they leave-is a common phrase. Between male & females, there are several different things that affect their buying behaviour. They have different needs in terms of fashion and lifestyle. So, their consumer behaviour can be vastly different. In most of the households, women influence most of the product choices. So, in the case of frozen food selection, gender can be an influencing factor.

The influence of age in frozen food purchases-Age is an important demographic factor in the time of purchasing frozen foods. With the growing of age, their needs change as well as purchase decision-making patterns. Young people are intended to spend more money on their lifestyle than aged people. Aged people tend to consume less energy-dense sweets and fast foods, and consume more energy-dilute grains, vegetables, and fruits rather than young people. Daily volume of taking foods and beverages also declines as a function of age.

Prior research shows that food purchase behaviour is related to marital status. Married men & women are more likely to be overweight than others in all other marital-status categories except for those living with partners (Hanson et al.2007). So, partnering plays a strong part in food selection.

The influence of economic status and educational levels in frozen food purchases-One of the most interesting things is economic status & educational level have a relationship with food choice. Generally, educated & solvent people wish to improve their living. Educated households purchased significantly more vegetables, fruit, and less meat relative to households with the lowest education level. Changes in lifestyle, opinion, culture, personality etc. and equal participation of women in the workforce are considered major factors in purchasing Frozen food. Convenience is an important factor in making purchase decisions regarding frozen food products.

Convenience indicates a consumer is inclined to save time and energy as regards food preparation. Food preparation is a time-consuming activity. So, a female person wants to minimise the time that is spent on meal preparation. Nowadays, people try different types of foods just to Check

them out and to change their taste. Children's tastes differed from that of adults. There is a taste difference between homemade food and purchased Ready-to-Eat products. Generally, customers are price sensitive & cautious about their spending. But it is not always true, particularly in food consumption. Frozen Food buyers are price-seekers who look for low price. Actually, those buyers who look for a low price are not stable, they switch every time to another lower-priced product. On the contrary, some consumers think the price is a signal of quality. They think quality products' prices are high. In a recent study, it has been found that consumers are more willing to pay the premium price to ensure the good quality of the food products. Branding consists of not only a name or logo but also some other activities done by the manufacturer to a particular product, service or idea in order to make the product unique in the market to compete with other products. Nowadays, branding becomes one of the basic motives for the consumers' choice of a particular food product. Branding is important to create an impact on consumers' choices along with their loyalty through identifying and differentiating quality and origin. The brand has a direct effect on the perceived quality because the brand indicates the quality of the product. It also helps to increase consumer trust, and reduce their perceived risk as well as time and effort put into switching/searching costs.

3) Change in Consumer Lifestyle

Global demand for convenience food has been prompted by changes in consumer lifestyles. And as a result, the demand for frozen meals has increased on the international market.

Additionally, the market for frozen meals will experience phenomenal development throughout the projected period due to the rise in the number of working women and the rise in the number of homes with only one person. Due to the shift in lifestyle, eating frozen foods every day has become the standard around the globe.

Through the internet search we understood that there has been a major shift in food habits in the metropolitan cities, as about 86% of households prefer to have instant food (canned, instant mixes, baked, pasta, etc.). Reasons are the steep rise in dual income level and standard of living, convenience, the influence of western countries etc.

According to a survey undertaken by the Associated Chambers of Commerce and Industry of India (ASSOCHAM). The survey on "Ready to Eat Food in Metropolitan cities" is based on responses from 3, 000 representative households with children or without children, nuclear families and bachelors. Many consumers in metros lead time-pressured lifestyles and have less time available for formal meals, as a result of which demand remains high for products which can be eaten on the go.

In the survey, ASSOCHAM claims that the Indian food processing market will show fast growth in the next five years. It is also estimated that this food processing industry would show annual growth of 40-60% in the next five years. This all will be encouraged by changed trade rules and increased demand among the people. The survey points out that these convent of 23 foods are preferred (86%) mainly by

nuclear families where both husband and wife are working or by bachelors who wish to avoid hotel food or people who do not have time, patience or the expertise to prepare in a traditional method. According to the survey, metropolitans are the largest consumers of processed food and are going to be the biggest consumers of processed food because of their ever-increasing per capita income and lifestyle which is also changing very rapidly, points out D S Rawat, Secretary General, ASSOCHAM. Major metropolitan cities in which respondents were interviewed include Mumbai, Cochin, Chennai, Hyderabad, Indore, Patna, Pune, Delhi, Chandigarh and Dehradun.

It has been observed that there has been a surprising rise in the demand for packaged food within the market, and that all happened because the lifestyle of people there has changed drastically as well as the consumer's opinion regarding their eating habits. The majority of the working class also mentioned that it's a boon to save time, energy and money by using these foods. Various foods helped to prevent the age-old traditional method of long preparation of grinding, cooking or fermenting for hours and hence making the work faster. Even the manufacturers prepared the instant foods according to the taste of the Consumers. The survey highlights that 85% of parents with children less than five year are serving these easy-to-prepare meals at least 7-10 times per month due to increased pressures at work, and increasing complexity in other household management areas-They would be actively looking for ways to simplify and save time, a majority of parents said.92% of the nuclear family feel that they have less free time than before they had kids, it is now a common fact that they are spending less time in the kitchen, and are turning to takeout, delivered food, and semi-prepared meals to help feed the family at mealtime.72% of bachelors prefer convenience food because of less cost, time and energy saving, convenience in preparation and consumption in the busy and hectic life. The very term 'instant' means simple, fast, convenient and affordable food which is easy and fast to prepare besides being hygienic.67% of working women revealed that the present trend changed the habits to foods which are simple and easy to digest. Hence, the existence of these foods fulfilled all the needs of modern human beings. Even after being economical and convenient, 34% of the consumers prefer the traditional types of foods which are fresh and natural without any preservatives or artificial Ingredients.42% of the respondent said that another advantage of instant foods that occupy less space in the kitchen or pantry, the amount of drudgery involved is less and there is a tremendous potential for commercial exploitation as it is a "rising industry".

4) An increase in awareness of the health advantages of frozen foods

Consumers who are always on the run are concerned about their health and are willing to spend money on things that will improve it. Over the course of the forecast period, the market is anticipated to trend upward due to growing consumer awareness of the health advantages of eating frozen foods.

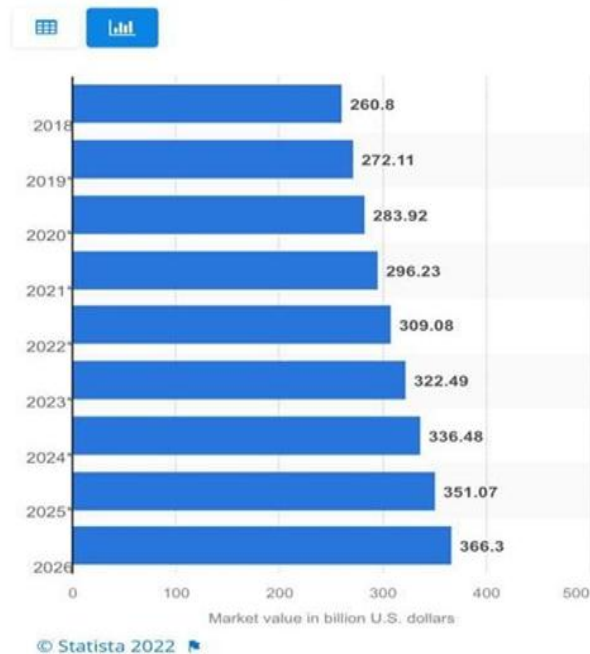
The frozen food industry is using this customer mood to produce more items that are healthy. This sector's dairy

business produces goods with less processing and little added sugar. Frozen dairy products like yoghurt and ice cream are excellent sources of calcium, phosphorus, and vitamin D.

5) COVID-19 Pandemic

Size of the frozen foods market worldwide from 2018 to 2026

(in billion U.S. dollars)



The above graph shows that the frozen food market started growing since 2018, however the Covid-19 Pandemic boosted the frozen food industry to another level. The changing Indian lifestyle is creating a multitude of opportunities for market players, across industries. The rise in the number of women in the workforce, and the resultant time-paucity, along with the increasing at-home socialising, the preference for nuclear families, or that of young professionals for living alone; the growing acceptance of western food, and the need for on-the-move freshly-cooked food are often cited reasons given by firms while launching frozen/ready-to-eat meals. After the in-depth analysis of the reasons for booming frozen food industry, we can also analyse some negatives.

6) Restraints-Increasing demand for natural and fresh food goods

One of the main barriers to this market's growth is the perception among certain customers that frozen food is a subpar alternative to fresh food. Food prepared a year or more before it is consumed is thought to be unnutritious. The US Food and Drug Administration (FDA) and the International Food Information Council (IFIC) have made claims regarding the nutritional value of frozen food, such as "frozen produce may be just as excellent as the fresh stuff in terms of nutrients," which are altering customer perception. Food items held at various temperatures can lose nutrients, while nutrients like vitamin C and folate can alter with temperature changes. Foods that are frozen don't lose as many vital nutrients since they are kept at a consistent low temperature.

7) Challenges-Lack of cold chain infrastructure in developing economies

In order to grow the market share of frozen foods in any nation, cold chain logistics have been shown to be an essential prerequisite. However, poor nations continue to lack the cold chain infrastructure necessary to provide their residents with safe frozen food supplies. Although frozen food has a lengthy shelf life, because of a lack of infrastructure, the product is readily discarded, costing frozen food producers money. One factor causing the cold chain logistics industry to sluggish down has been a lack of investment caused by the financial crisis in developing nations. The market for frozen foods has so been affected as a result. The import and export of frozen food goods has been negatively impacted by a lack of cold chain logistics infrastructure in developing nations including Bangladesh, South Africa, and Myanmar. However, because of the growing acceptability among consumers in metropolitan areas, these emerging nations present a significant opportunity for market investment.

3. Conclusion

Food consumption behaviour is rapidly changing from cereal-based food products to high-value food products and slowly from fresh, unprocessed, unbranded food products to processed, packaged and branded products. Socio-demographic factors and product's intrinsic & extrinsic factors have an effect on purchase behaviour. The factors analysed in depth in this paper highlight the reasons for a booming frozen food market and a good potential for new entrants.

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