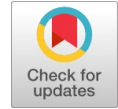


Customer Perception on Frozen Food in Chennai



Malavikaa G, Sreeya.B

Abstract The amount of frozen foods on the shelves of every shop and household has increased in a large number in the recent years. For this research, an empirical study has been conducted to understand the customers residing in Chennai's perception on frozen food, to observe how certain factors have influenced the way the customers view the frozen food products available in the market and also to analyse the awareness among them regarding the frozen foods and responses were collected from 1450 people and the data was analysed with the help of Chi square analysis. Majority of the respondents are aware about the frozen foods and its impact and importance on the emerging society and have adapted to the changes that take place in the society. Though the awareness, availability and the understanding about the benefits about the frozen food are high in the society, people are under the misconception that frozen foods are unhealthy and are infused with various preservatives and chemical components that help increase the shelf life of the product which are incidentally harmful to the health if the people. This study helped understand the concept of frozen foods and analysed the awareness about frozen food among the general public.

Key Words: Customer perception, Frozen foods, Quality, Preference, Awareness, Unhealthy

I. INTRODUCTION

Customer perception is a marketing concept that encompasses a customer's impression, awareness and/or consciousness about a company or its offerings. Customer perception is typically affected by advertising, reviews, public relations, social media, personal experiences and other channels. Solidifying nourishment jam it from the time it is set up to the time it is eaten. Since early occasions, agriculturists, anglers, and trappers have saved grains and create in unheated structures amid the winter season. Solidified items don't require any additional additives since microorganisms don't develop when the temperature of the nourishment is underneath -9.5°C (15°F), which is adequate all alone in avoiding sustenance decay. Solidified sustenance bundling must keep up its uprightness all through filling, fixing, solidifying, stockpiling, transportation, defrosting, and frequently cooking. The same

number of solidified substances are cooked in a microwave, producers have created bundling that can go straight from cooler to the microwave. Solidifying is a compelling type of sustenance conservation in light of the fact that the pathogens that reason nourishment deterioration are executed or don't become quickly at decreased temperatures. Indian solidified sustenance advertises remained at \$ 310 million out of 2017 and is anticipated to develop at a CAGR of more than 16% to reach \$ 754 million by 2023, sponsored by quickly developing interest from working class customers with expanding discretionary cash-flow. The aim of the study is to find the Customers perception on frozen food in Chennai. The objectives of the study are to understand the customer perception on frozen food, to analyse the association between opinion on frozen food and age, to find the association between safety and ag, to analyse the relationship between quality of frozen food and income and to identify the awareness about frozen food.

II. REVIEW OF LITERATURE

Deval Patel, Raju Rathod (2017) identified that there are various factors influencing purchase decisions like brand attributes, demographic variables, ethical concerns, food preferences and food choices. Muhammad Abid Saleem, Allah Wasaya, Sadar Zahra (2017) briefed how nourishment factors change the customer goal towards purchase of frozen food. Supimmas Thiernhirun (2017) investigated that the image of ready to eat food in Thailand and Japan was based on the characteristics and brand name of the product. Jenifer Dlugos (2017) found that frozen vegetables are more nutritious than the fresh foods because it helps retain the nutrient content in the vegetable throughout. Ximig Zhan, Da Wen Sun, Qi Jun Wang, Zhiwli Zhu (2017) found that freezing of meat including fish meat helps preserving its freshness and nutrients and novel methods have been introduced to reduce the weakness conventional methods. Vemuri Veena Prasad (2017) found that there is a requirement for frozen foods that are quick to cook with the increase in the number of working women. Kumari Shikha Ojha, Colm O'Donnel (2016) identified that solidifying is one of the most generally utilized methods for nourishment safeguarding. Webmaster LBA (2016) is of the opinion that the packaged frozen category has a tremendous growth opportunity in the near future due to a growing number of nuclear families. Sunder Srinivasan, Kiran Muralidhar Shende (2015) found that there is a visible shift in food consumption pattern among urban Indian families during the increasing acceptance of western food.

Manuscript published on 30 September 2019.

*Correspondence Author(s)

Malavikaa G, B.B.A. L.L.B(HONS), 1 YEAR Saveetha School of Law Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai, Tamilnadu, India.

(e-mail: malavikaaganesh24@gmail.com)

Dr. Sreeya B, Associate Professor, Department of Management Studies Saveetha School of Law, Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai, Tamilnadu, India.

(E-mail: sreeyab.ssl@saveetha.com)

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

Gunjan Malhotra, Amit Malhotra (2014) examined how consumer’s different tastes influence the consumption of ready to eat packaged food products in India. Asma Hawa, Harsh Kanani, Mansi Patel, Neha Taneja, Priya Maru, Saloni Gopani, Sarfaras Kaliwali, Shadak Sharma, Shivam Sharma, Siddhi Patel (2014) have examined that the buyers are getting more mindful about nourishment products in the retail industry. Rashmi Kathri (2013) found that frozen food is increasingly becoming popular among consumers in India and hence so is the frozen food industry. Aamir Saifullah, Nawaz Ahmed, Rizwan Raheem Ahmed, Badar Khalid (2014) intended to throw light on the various aspects of frozen foods and buying behaviour of the customers. Tarun Jain, Vidul Sharma (2014) understood that the frozen food/convenience food industry, offers a wide range of products from fruits and vegetables to frozen meals to read to cook, snacking and full meal options. Vijaybaskar, Sundaram (2012) opined that Indian cooking and lifestyle have undergone tremendous changes due to various factors. Lee Ann Smith (2009) identified that the variety of frozen foods have increased in great numbers and that frozen meals are healthier for people suffering from chronic kidney disease. Quang Tuan (2008) inspected the ongoing improvements on different parts of sustenance solidifying and the impacts of solidifying on nourishment quality are depicted..

III. METHODOLOGY

For the purpose of study, descriptive research was used. Descriptive research helps the researcher to portray the characteristics of a particular individual, situation or a group accurately. Convenience sampling method was used in this study to collect the samples. Selection of elements based on ease of access is known as convenience sampling method. To conduct an empirical study, the researcher collected responses through questionnaire from 1450. The Gender, Area, Marital Status, Monthly Income, Age, Educational Qualification of the respondents were the independent variable while Awareness, Availability, Time Saving, Quality, Safety, Opinion on frozen food were the dependent variable. The statistical tools used while conducting this research are Chi-Square, Independent t-test, Correlation.

IV. ANALYSIS AND DISCUSSION RESULTS

Null Hypothesis:

There is no significant difference between the awareness of frozen food and the gender

Alternate Hypothesis:

There is no significant difference between the awareness of frozen food and the gender.

Table 1: Awareness of Frozen Foods and Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Awareness of Frozen Foods	Male	721	1.29	.455	.017
	Female	729	1.26	.438	.016

Source: Primary data

Table 2: Independent Sample t test: Awareness of Frozen Foods and Gender

	Value	df	p-value
Independent Sample t test	1.424	1448	0.004

Source: Primary data

Using Independent sample t test, it was found that p value is less than 0.05, which shows that null hypothesis is rejected. Therefore, there is significant difference between Frozen foods and gender. It shows than male and female have a varied degree of awareness of frozen foods.

Null hypothesis:

There is no significant association between the availability of frozen food and the area of the respondent.

Alternate:

There is no significant association between the availability of frozen food and the area of the respondent

Table 3: Chi Square test: Availability of Frozen Foods and Area

	Value	df	p-value
Pearson Chi-Square	71.166	12	0.000

Source: Primary data

Using Chi square test, it was found that p value is less than 0.05, which shows that null hypothesis is rejected. Therefore, there is significant association between product availability and area. It shows that availability of frozen foods is based on area.

Null Hypothesis (H0):

There is no significant association between saving time and marital status

Alternate :

There is no significant association between saving time and marital status



Table 4: Time saved and Marital Status

Paired variables	Mean	S.D	t value	df	Sig value
Unmarried	1.59	1.055	78.866	1449	.000**
Married	1.77				

Source: Primary data ** indicates 1% level of significant value

Paired t-test was done to study the significant difference in the time saved by using before and after marriage. Significant value (0.000) is less than 0.01, which shows that there is significant difference in their time saved by using frozen food before and after marriage. There is an increase in mean values from 1.59 to 1.77, which means that more time is saved by using frozen foods after marriage.

Null Hypothesis:

There is no significant relationship between quality of frozen food and income of the respondent

Alternate hypothesis:

There is no significant relationship between quality of frozen food and income of the respondent

Table 5: Correlation – Income and Quality

Variable1	Variable2	p-value	Correlation coefficient
Income	Quality	0.002	0.082*

Source: Primary data * Correlation is significant at the 0.05 level

Correlation analysis is used to test the relationship between income of the respondent and comparison of price during window shopping. Since $p < 0.05$, null hypothesis is rejected at 5% level of significance. There is significant correlation between the income of the respondent and quality of frozen food. ($r = 0.082$ $p = 0.002$)

Null Hypothesis:

There is no significant association between the safety of using frozen food and the age of the respondent

Alternate hypothesis:

There is no significant association between the safety of using frozen food and the age of the respondent

Table 6: Chi Square test: Age and safety of frozen food

	Value	df	p-value
Pearson Chi-Square	20.895	12	0.050

Source: Primary data

Using Chi square test, it was found that p value is less than 0.05, which shows that null hypothesis is rejected. Therefore, there is significant association between age and safety of using frozen foods. The respondents are in a dilemma regarding the safety of frozen foods.

Null Hypothesis:

There is no significant association between the opinion on frozen food and educational qualification

Alternate:

There is no significant association between the opinion on frozen food and educational qualification

Table 7: Chi Square test: Educational Qualifications and Opinion on frozen food

	Value	df	p-value
Pearson Chi-Square	25.539	4	0.000

Source: Primary data

Using Chi square test, it was found that p value is less than 0.05, which shows that null hypothesis is rejected. Therefore, there is significant association between educational Qualifications and opinion on frozen foods. It is found that majority of the respondents think Frozen foods are unhealthy.

V. CONCLUSION

Customer perception on frozen foods is the study on how the customer views a particular brand of frozen food and what are the factors that influence his buying decision of frozen foods and also the amount of influence each factor exerts on the buying decision. In conclusion, we can notice that frozen food availability varies and depends upon the area in which the people of Chennai reside and that the consumption and preference of frozen foods have increased by a large number and are also influenced by various characteristics like age, gender, income etc. In future the scope of the research on customer perception on frozen foods can be widened by either increasing the geographical territory or by analysing the effects of frozen foods on the customers health.

REFERENCES

1. Aamir Saifullah, Nawaz Ahmed, Rizwan Raheem Ahmed, Badar Kahlid. n.d. "Frozen Food Revolution: Investigating How Availability Of Frozen Food Affects Consumer Buying Behavior." https://www.researchgate.net/publication/264742509_FROZEN_FOOD_REVOLUTION_INVESTIGATING_HOW_AVAILABILITY_OF_FROZEN_FOOD_AFFECTS_CONSUMER_BUYING_BEHAVIOR.
2. Asma Hawa, Harsh Kanani , Mansi Patel , Neha Taneja, Priya Maru, Sarfaraz Kaliwala, Saloni Gopani, Shatak Sharma, Shivam Sharm , Siddhi Patel. n.d. "Asian Journal If Managements Research." <http://www.ipublishing.co.in/ajmvol1no1/volfive/EIJMRS5202.pdf>.
3. Bin Fu, Theodore P. Labuza. n.d. "Quality in Frozen Food." https://www.researchgate.net/publication/279347123_Quality_in_Frozen_Food.
4. Chhajer, Surbhi. n.d. "To Study Customer Behaviour towards Frozen Food Products." <https://www.slideshare.net/surbhichhajer/market-research-on-frozen-foods>.
5. Da Wen Sun Zhiwei Zhu Qi Jun Wang, Ximing Zhan. n.d. "Improving the Quality and Safety of Frozen Muscle Foods by Emerging Freezing Technologies: A Review." <https://www.tandfonline.com/doi/abs/10.1080/10408398.2017.1345854>.



Customer Perception on Frozen Food in Chennai

6. Dhruvi Shah &. n.d. "AN EMPIRICAL RESEARCH ON DIFFERENT CATEGORIES OF FROZEN FOODS." <http://reflections.rustomjee.com/index.php/reflections/article/download/18/pdf>.
7. Dlugos, Jenifer. n.d. "How Healthy Are Frozen Vegetables?" <https://www.livestrong.com/article/348271-how-healthy-are-frozen-vegetables/>.
8. Gunjan Malhotra, Amit Malhotra. n.d. "An Empirical Investigation of Consumer's Preference in RTE Market." *The Business & Management Review*, Volume 5 Number 3. http://www.abrnr.com/myfile/conference_proceedings/Con_Pro_78450/v5n3itrac14-1.pdf.
9. Khatri, Rashmi. n.d. "Frozen Food Industry in India: A Market Study." <http://globalvisionpub.com/globaljournalmanager/pdf/1387009485.pdf>.
10. Kumari Shikha Ojha, Colm O'donnell. n.d. "Freezing for Food Preservation, Reference Module in Food Science." <https://www.sciencedirect.com/science/article/pii/B9780081005965031085>.
11. Muhammad abid saleem, allah wasaya, Sadar zahra. n.d. "Determinants of Frozen Food Purchase Intentions: Insights from a Developing Country." <https://jamanetwork.com/journals/fullarticle/329686>.
12. Prasad, Vemuri Veena. n.d. "CONSUMER ATTITUDES TOWARDS THE ACCEPTANCE AND USAGE OF READY-TO-EAT FOOD PRODUCTS AMONG THE WORKING WOMEN IN THE CITY OF MUMBAI (BHANDUP AREA), *Journal of Advances in Business Administration*." http://www.jadbm.com/latest-articles.php?at_id=180.
13. Sharma, Tarun Jain Vidul. n.d. "FROZEN FOODS & SNACKS MARKET IN INDIA." <http://www.technopak.com/Files/frozen-foods-and-snacks-market-in-india.pdf>.
14. Smith, Leeann. n.d. "Frozen Meals." *Journal of Renal Nutrition*; Volume 19 Issue 3 May 2009 Page e09-e11. [https://www.jrnjournal.org/article/S1051-2276\(09\)00064-8/pdf](https://www.jrnjournal.org/article/S1051-2276(09)00064-8/pdf).
15. Sunder Srinivasan, Kiran Murlidhar Shende. n.d. "A Study on the Benefits of Convenience Foods to Working Women." <http://www.publishingindia.com/GetBrochure.aspx?query=UERGQnJvY2h1cmVzfC8yNDQ3LnBkZnvwMjQ0Ny5wZGY=>.
16. Thiernhirun, Supimmas. n.d. "Consumer Attitudes and Preferences toward Cross Cultural Ready to Eat Food." <https://www.tandfonline.com/doi/full/10.1080/10454446.2016.1266544?scroll=top&needAccess=true>.
17. Tuan, Quang. n.d. "Advances in Food Freezing/thawing/freeze Concentration Modelling and Techniques *Japan Journal of Food Engineering* Vol.9, No.1, pp22-32." http://www.jsfe.jp/journal/PDF/vol9_1_3.pdf.
18. Vijayabaskar M, N. Sundaram. n.d. "A Market Study in Key Determinants of Ready to Eat/ Cook Products with Respect to Tier 1 Cities in Southern India." http://zenithresearch.org.in/images/stories/pdf/2012/JUNE/ZIJMR/12_ZIJMR_VOL2_ISSUE6_JUNE2012.pdf.
19. Webmaster, L. B. A. n.d. "Frozen Food Market in India." <http://fmtmagazine.in/frozen-food-market-india/>