



Available Online

## Journal of Economic Impact

ISSN: 2664-9764 (Online), 2664-9756 (Print)

<https://www.scienceimpactpub.com/jei>

### DRIVERS INFLUENCING CONSUMERS' BUYING INTENTIONS TOWARDS FROZEN CHICKEN PRODUCTS: A CASE OF SOUTH PUNJAB

Manan Aslam<sup>a,b</sup>, Mubashir Ansar<sup>a</sup>, Mudassar Yasin<sup>c</sup>, Irfan Ahmad Baig<sup>a</sup>, Shoaib Nasir<sup>a</sup>, M. Ali Imran,<sup>a</sup> Sami Ullah<sup>a,\*</sup>

<sup>a</sup> Department of Agribusiness and Applied Economics, MNS-University of Agriculture, Multan, Pakistan

<sup>b</sup> School of Management, Jiangsu University, Zhenjiang, Jiangsu, China

<sup>c</sup> Department of Agri. Extension, MNS-University of Agriculture, Multan, Pakistan

#### ARTICLE INFO

##### Article history

Received: January 19, 2022

Revised: May 15, 2022

Accepted: June 08, 2022

##### Keywords

Binary logistic regression

Chicken candies

Frozen chicken products

Hygiene factor

#### ABSTRACT

In the scenario of Pakistan, the demand for frozen chicken products such as nuggets, a variety of chicken, drumsticks, burger patties, and chicken candies has increased with the passage of time. Rise in consumer income, change in the demographics and lifestyles, and changes in the preferences of the people because of the awareness as well as new technologies. The present research was carried out in the city of Multan. The city selected for research, as it is a densely populated city in southern Punjab. Multan is also the fourth largest city in Pakistan, and it is a purposive study-targeting customers related to value-added chicken products, A representative sample of consumers was drawn. A sample of 200 customers was interviewed by employing a convenient sampling technique. The researcher used the pre-tested items for the questionnaire of the present study for the collection of data from participants selected through personal interviews. Data collected from 1-20 April 2021. The consumer preferences for frozen chicken products were estimated by using the binary logistic regression technique. According to the results, all independent variables (qualification of consumers, consumer family size, income of consumer, hygienic factor, taste, appearance, availability, location, and season) are influencing the consumption of frozen chicken products significantly except the availability of frozen chicken products in the study area. The consumers highlighted various problems such as lack of advertisement, high prices, and lack of awareness, location, and availability of frozen chicken products in the study area. Advertisement campaigns should initiate to enhance the awareness and usage of frozen chicken products by the companies in the study area.

\* Email: [sami.ullah@mnsuam.edu.pk](mailto:sami.ullah@mnsuam.edu.pk)

<https://doi.org/10.52223/jei4022212>

© The Author(s) 2022.

This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

#### INTRODUCTION

Frozen food is considered as one of the growing food industries and may currently be supported on the market. Frozen meals are a sort of cuisine produced or manufactured partially, frozen to 20°C and kept throughout a stockpiling period of at least 1.5 months. Frozen foods have generally been partly cooked before freezing, then packaged and frozen fast. The high demand for proteins from animal sources in consumer food is associated with growing urbanization, improving living standards, changing dietary habits, and growth of animal production and consumer preferences (Neima et al., 2021; Ahuja, 2011). Since the market is comfortable and ready for preparation, it is growing significantly. The freezing technique does not affect the food and flavour, which attract people to it. This was a fantastic option for people who are inclined toward an agitated schedule and do not want to have a lot of time in the kitchen (Jay et al., 2019; Purwaningsih et al., 2021; Rozaki et al., 2021).

Due to its convenience, value, appeal, taste and texture, consumers are more drawn by frozen foods (Patel and Rathod, 2017).

The concept of food has constantly altered. People used to consume handmade cuisine in former times. As this pattern was modified, the restaurant started consuming food. It altered again thereafter. People are now taking meals at home, although Readymade Frozen Food (RMFF) is purchased from markets or supermarkets. In addition, normal people have shown themselves to be highly occupied with their job with the pace of globalization. Culture has also evolved to adapt to globalization (Sen et al., 2021). Moreover, normal people quite occupy with their professions at the speed of globalization. Culture has also evolved to adapt to globalization. Consumer perception is a marketing phrase that comprises a customer's impression and awareness of a company and its offerings. Usually, press, reviews, publicities, social media, and other sources affect the

prospects of our consumers (Udomkun et al., 2018; Schuch et al., 2019). Customer perception of frozen foods is the study of how the customer views a particular brand of frozen food and what factors influence his buying decision of frozen foods, and 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 influenced by various characteristics like age, gender, income, etc. As women changed ranks and took part in job activities, working hours and household incomes, demand for frozen foods might have grown (Rafique et al., 2018; Ahuja, 2011).

Age also plays an important impact on buying and these age-changing eating habits. In the purchasing choice, the social-demographic parameters, such as age, gender, yearly income, employment, and economic status, has a major impact. Parallel to the latest study, this opinion. Employment position also affects the intention to acquire food; there may be various choices for different occupations. Kazemi and Vasegh (2015) in their study, found that Consumers buying dairy goods have considerable behaviour about their state of job, marital status, and education. With the purchase of frozen meals, this can be true. Zhang and Goddard (2010) did a relative study of American and Canadian consumers 'buying decisions for frozen food products; the research is based on two consumer theories: explanatory action theory and planned behaviour theory. The idea behind it is when food is frozen fast, large ice crystals are unable to form, whereas, in the normal process of freezing, large ice crystals are formed that can damage and affect the flavour and texture of foods (Archer, 2004; Hessel et al., 2019).

Finally, the growth of the frozen food sector will have a bearing on farmers and eventually on governments through adding value, cutting losses, and pricing stability after harvest. As it is better, farmers profit immediately, whether they own a cow/buffalo or cultivate wheat and coarse grain used in feeds for poultry, or produce fruit and plants. The consumer boom is enjoyed in Pakistan by the companies. Housewives prefer ready-prepared items because they do not want to cook, so they really need instant food in their homes. The preparation of the Shami Kababs requires a lot of time and work and must be done in a minimum amount at home. Six kababs cannot be made, yet only six can be needed for one service. Therefore, it is reasonable to purchase food ready for cooking/frying heavy work. Moreover, there are certain goods, such as Seekh Kababs and Chicken Tikka that you cannot even manufacture at home, for example. Pakistani customers go towards convenience, access, cleanliness, and cost-cutting. It enables individuals to adapt their lifestyles to the availability of the items. In the future, frozen food will be a major component of our diet. In the last decade, the competitive landscape in retail has altered. The differentiation in items has also increased: families are able to pick between a growing variety of brands in shops and domestic brands of comparable products. The market for meat added value is none other than any other market sector for food, as both domestic and private brands are being established to foster customer convenience, health, manufacturing, and environmental qualities (Zhang and Goddard, 2010; Wu et al., 2015; Islam et al., 2019). There is a continuous increase in

demand of frozen in frozen chicken and related foodstuff because many people must leave their homes due to their professions, so they have less time to cook the food. It is also observed that the trend of consumption of frozen chicken products has accelerated during the times of COVID-19 as professionals have to work from their homes (Dabadi and Gurung, 2020; Malavikaa and Sreeya, 2019). There was a continuous increase in the demand for frozen meals from eateries until the lockdown forced them. Therefore, the study aims to explore and quantify the impacts of major drivers influencing consumer preferences towards frozen chicken products in the district Multan of South Punjab, Pakistan.

## METHODOLOGY

The pre-tested questionnaire was used to gather the data from targeted customers through personal interviews of concerned customers. The purposive sampling procedure was employed to capture the impact of consumer preferences toward frozen chicken products. Data were gathered from the customers from 1-20 April 2021. After interviewing schedule, the collected data were properly observed to make sure that the answers had been documented correctly. Subsequently, all responses were numbered in sequential order. After modifying the responses, data moved from questionnaires to the laptop. Data were modified and entered into the laptop for research analysis, and the following statistical procedures were employed to examine and infer data. For this research, descriptive statistics were used to draw inferences about the variance in the data collected, to plot ranges, and to establish upper and lower bounds. The consumer preferences for frozen chicken products were estimated by using the binary logistic regression technique. The logistic regression procedure has been employed in various research studies and applications due to its mathematical approach (Greene, 2003); in this research study, it was employed to check the significance of decisions regarding buying/not buying frozen chicken products. The equation for the binary logit is given as (Long, 1997; Field and Miles, 2009).  $P = 1$  if consumer is consuming frozen chicken products and 0 otherwise. A specific structure of this relationship is described as;

$$\ln [p/1-p] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 Z_1 + \beta_6 Z_2 + \beta_7 Z_3 + \beta_8 Z_4 + \beta_9 Z_5 + \beta_{10} Z_6 + \beta_{11} Z_7 + \beta_{12} Z_8 + \varepsilon \quad (1)$$

Whereas,

$X_1$ : Age of selected consumers (years)

$X_2$ : Qualification of consumers (years)

$X_3$ : Consumer family size (in numbers)

$X_4$ : Income of consumer (Rs. /month)

$Z_1$ : to observe the effect of hygienic factor

$Z_2$ : to observe the effect of taste

$Z_3$ : to observe the effect of appearance

$Z_4$ : to observe the effect of availability

$Z_5$ : to observe the effect of location

$Z_6$ : to observe the effect of the season

$Z_7$ : to observe the effect of advertisement

$Z_8$ : to observe the effect of price

Based on our given function, we employed the binomial logit model to estimate the coefficients of the variables. Whereas

Likert scale was used to measure the impact of Z's variables on consumer buying for frozen chicken products.

**RESULTS AND DISCUSSION**

A brand is a commercial and marketing idea that allows customers to recognize a specific product. In this figure, it is estimated that from a total of 200 respondents, 69.23 % prefer a particular brand for selecting frozen chicken items, and only 30.77 % of them prefer any brand regarding the consumption of frozen chicken products.

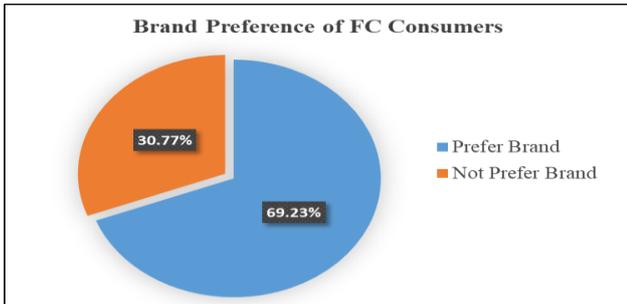


Figure 1. Brand preference of consumers for frozen chicken products.

Preference varies with different parameters; this figure shows the preference of male and females toward frozen chicken products. The results show that about 81.5 % of the male are inclined toward frozen chicken as it is ready to cook and prepared product, and 18.5 % of females seem to prefer frozen chicken items.

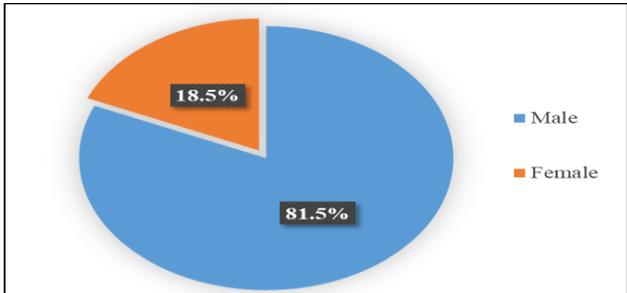


Figure 2. Percentage of consumers with respect to gender about buying frozen chicken products.

The consumption of frozen chicken products is different according to the season; in winter, the %age of consumption is estimated to be about 79 % of the total. In the summer season, the consumption is decreased to 21 % due to seasonal change.

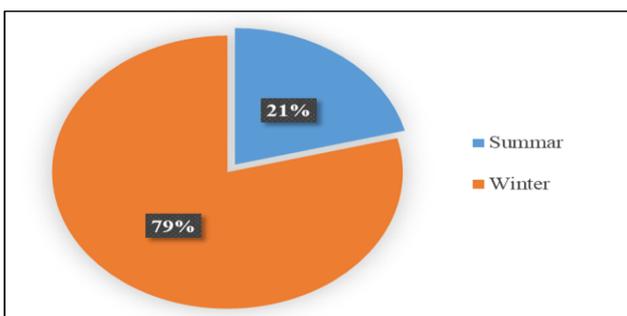


Figure 3. Percentage of consumers with respect to the season for buying frozen chicken products.

**Logistic Regression Results of the Model (Consumers' Preferences towards Frozen Chicken Products)**

The age of the selected consumers contributes positively to a decision regarding buying frozen chicken products. The odd ratio of age of consumers (2.87) is explained as for every one-unit increase in the age; there are 2.87 times chances consumer buying frozen chicken increased.

Qualification of the selected consumers contributes positively to a decision regarding buying frozen chicken products. The odd ratio of age of consumers (1.22) is explained as for every one-unit increase in the qualification; there are 1.22 times chances consumer buying frozen chicken was increased. These results have also been supported by the studies of Dabadi and Gurung (2020), Sowmya and Samsai (2020), Sen et al. (2021), and Ahuja (2011).

According to findings, the family size of the selected consumers contributes positively to a decision regarding buying frozen chicken products. The odd ratio of the family size of consumers (0.04) is explained as for every one-unit increase in the family size. There are 0.04 times the chances of consumers for buying frozen chicken was increased (Dabadi and Gurung, 2020; Sen et al., 2021; Ahuja, 2011). The odd ratio of a hygienic factor of selected consumers (2.32) is explained as for every one-unit increase in the hygienic factor, there are 2.32 times the chances consumer buying for frozen chicken was increased. The odd ratio of taste of selected consumers (3.22) is explained as for every one-unit improvement in the taste; there are 3.22 times chances of consumers buying for frozen chicken increased.

According to findings, the appearance of frozen chicken products contributes positively to the decision to buy frozen chicken products. The odds ratio of appearance for frozen chicken of selected consumers (5.85) is explained as for every one-unit increase in the appearance; there are 5.85 times chances consumer buying for frozen chicken was increased. The odd ratio of availability of frozen chicken products (4.95) is explained as for every one-unit improvement in the availability of frozen chicken products, and there are 4.95 times chances consumer buying for frozen chicken was increased. Conferring to findings, the odds ratio of the location of selected consumers (9.51) is explained as for every one-unit increase in the category of location; there are 9.51 times chances consumer buying for frozen chicken was increased. The odd ratio of season for frozen chicken products (7.27) is explained as for every one-unit change in the season (cool/rainy/mild) weather; there are 7.27 times chances consumer buying for frozen chicken was increased. Income of the selected consumers contributes positively to a decision regarding buying of frozen chicken products. The odd ratio of income of consumers (13.93) is explained as for every one-unit increase in the income, there are 13.93 times chances consumer buying for frozen chicken was increased. The positive sign shows that if the income of selected consumers increases, then selected consumers buying behavior will also improve for frozen chicken products in the study area. Similarly, the odd ratio of advertisements for frozen chicken products (3.892) is explained as for every one-unit change in the advertisement; there are 3.892 times

chances consumer buying for frozen chicken was increased. The positive sign shows that if advertisement changes as mentioned above, then selected consumers buying behavior

will also improve for frozen chicken products in the study area. This result is also supported by the studies of Sen et al. (2021), Ofuoku and Akusu (2016), and Ahuja (2011).

Table 1. Logistic regression model summary.

Variables	B	Wald	F-Value	Exp(B)
Age of consumers	1.057	1.87	0.062**	2.877
Schooling (years)	0.201	2.35	0.019*	1.222
Family size	3.039	2.26	0.024*	0.048
Hygienic factor	0.844	0.93	0.353*	2.326
Taste	1.170	1.80	0.071**	3.223
Appearance	1.767	2.80	0.005*	5.855
Availability	1.599	1.22	0.221 <sup>NS</sup>	4.951
Location	2.253	1.66	0.097**	9.519
Season	1.984	2.91	0.004*	7.270
Income	2.634	2.03	0.042*	13.933
Advertisement	1.352	1.57	0.053*	3.892
Price	1.120	2.25	0.015*	4.821
Constant	5.929	3.14	0.002	0.003

Source: Author's own estimation.

The odd ratio of price for frozen chicken products (4.821) is explained as for every one-unit change in the price, and there are 4.821 times the chances of consumer buying for frozen chicken increased. The positive sign shows that if the price will change as mentioned above then selected consumer buying behaviour will also improve for frozen chicken products in the study area because the price matters a lot as inflation is increasing people desire to get their favourite things at reasonable prices. Most of the people seem to have price issues regarding the purchase of frozen chicken production in the study area. This result is also supported by the studies of Dabadi and Gurung (2020), Sen et al. (2021), Mufeeth and Thariq (2019), Mufeeth (2018), Ahuja (2011), and Katiyo et al. (2020).

## CONCLUSIONS

The present research was conducted to check consumer preferences for frozen chicken products using the binary logistic regression technique. The independent variables are the age of selected consumers (years), qualification of consumers (years), consumer family size (in numbers), the income of consumer (Rs. /month), hygienic factor, taste, appearance, availability, location and season, price, and advertisement measure the impact on the dependent variable, i.e., consumption of frozen chicken products. According to the results, all independent variables such as qualification of the consumers, consumer family size, the income of consumer, hygienic factor, taste, appearance, availability, location, season, price, and advertisement are influencing the consumption of frozen chicken products significantly except the availability of frozen chicken products in the study area. Therefore, there is a dire need to focus on advertisement and prices (discounted prices) to accelerate the sale of these frozen chicken products in the study area.

## REFERENCES

Ahuja, H.K., 2011. A comparative study of attitude and adoption of frozen food amongst the consumers of Ludhiana and Delhi cities. Punjab Agric. Univ. Ludhiana-141 4.

Archer, D.L., 2004. Freezing: an underutilized food safety technology? Int. J. Food Microbiol. 90, 127–138.

Dabadi, S., Gurung, B., 2020. Consumer's Motivation to Purchase Frozen Food in Kathmandu. Manag. Dyn. 23, 229–242.

Field, A.P., Miles, J., 2009. Discovering statistics using SPSS. 3rd Ed. Sage Publications, London, UK.

Greene, H.W., 2003. Econometric analysis. (5th edition). Pearson Education, Upper Saddle River, New Jersey, USA.

Hessel, C.T., de Oliveira Elias, S., Pessoa, J.P., Zanin, L.M., Stedefeldt, E., Tondo, E.C., 2019. Food safety behavior and handling practices during purchase, preparation, storage and consumption of chicken meat and eggs. Food Res. Int. 125, 108631.

Islam, N., Tahsin, N., Tarrannum, N., Salihee, R.Z., Tarannum, S., Sujana, J.T.M., 2019. Factors influencing the consumers' perceptions towards frozen and ready-to-cook food products in Bangladesh, in: Proceedings of the 1st Global International Conference. Presented at the "1st Global International Conference 2019" held during 13-14 December 2019 in Kathmandu, Nepal.

Jay, J.M., Loessner, M.J., Golden, D.A., 2019. Modern food microbiology: Springer Science & Business Media.

Katiyo, W., Coorey, R., Buys, E.M., de Kock, H.L., 2020. Consumers' perceptions of intrinsic and extrinsic attributes as indicators of safety and quality of chicken meat: Actionable information for public health authorities and the chicken industry. J. Food Sci. 85, 1845–1855.

Kazemi, F., Vasegh, H., 2015. Study the socio-cultural and demographic factors influencing purchasing behavior of Shiraz Zarrin Ghazal dairy products company. Cumhur. Üniversitesi Fen Edeb. Fakültesi Fen Bilim. Derg. 36, 3109–3120.

Long, J.S., 1997. Regression models for categorical and limited dependent variables (Vol. 7). Adv. Quant. Tech. Soc. Sci. 219.

Malavikaa, G., Sreeya, B., 2019. Customer perception on frozen food in Chennai. Int. J. Innov. Technol. Explor. Eng. 8, 3176–3179.

Mufeeth, M.M., 2018. Consumer Preference of Value Added Indigenous Chicken Product: Contingent Valuation Approach. Int. J. Innov. Sci. Res. Technol. 3, 103–111.

- Mufeeth, M.M., Thariq, M.G.M., 2019. Evaluation of consumer preference for value addition to native chicken meat and egg. *SEUSL J. Mark.* 4, 10.
- Neima, H.A., Sirwan, K., Hameed, K., 2021. Consumers Choice and Preference for Chicken Meat in Sulaymaniyah, in: *IOP Conference Series: Earth and Environmental Science*. IOP Publishing, p. 12028.
- Ofuoku, A.U., Akusu, M.O., 2016. Preference and willingness of consumers to pay for value-added poultry products in Niger delta region of Nigeria. *J. Northeast Agric. Univ. (English Ed.* 23, 82–92.
- Patel, D., Rathod, R., 2017. Ready-to-eat food perception, food preferences and food choice—a theoretical discussion. *Worldw. J. Multidiscip. Res. Dev.* 3, 198–205.
- Purwaningsih, R., Susanto, N., Purba, N., Putri, A.A.A., 2021. The Analysis of Factors Affecting the Buying Interest in Poultry Frozen Food Processed Product, in: *Proceeding of IEOM Conference*.
- Rafique, S., Ghafoor, A., Ali, A., 2018. Hedonic price approach: Testing relationship between quality attributes of mutton and its prices in Faisalabad city, Pakistan. *Pakistan J. Appl. Econ.* 377-388.
- Rozaki, Z., Kamardiani, D.R., Huda, A.K., 2021. Consumer Preferences for Fresh and Frozen Local Beef in Sleman Regency, Indonesia, in: *E3S Web of Conferences*. EDP Sciences, p. 2026.
- Schuch, A.F., Silva, A.C. da, Kalschne, D.L., Silva-Buzanello, R.A. da, Corso, M.P., Canan, C., 2018. Chicken nuggets packaging attributes impact on consumer purchase intention. *Food Sci. Technol.* 39, 152–158.
- Sen, S., Antara, N., Sen, S., 2021. Factors influencing consumers'to take ready-made frozen food. *Curr. Psychol.* 40, 2634–2643.
- Sowmya, T., Somsai, T., 2020. A Study on Evolution of Frozen Meat Products in Food Bussines. *Pharma Innov. Journal.* 8, 6–9.
- Udomkun, P., Ilukor, J., Mockshell, J., Mujawamariya, G., Okafor, C., Bullock, R., Nabahungu, N.L., Vanlauwe, B., 2018. What are the key factors influencing consumers' preference and willingness to pay for meat products in Eastern DRC? *Food Sci. Nutr.* 6, 2321–2336.
- Wu, L., Wang, S., Zhu, D., Hu, W., Wang, H., 2015. Chinese consumers' preferences and willingness to pay for traceable food quality and safety attributes: The case of pork. *China Econ. Rev.* 35, 121–136.
- Zhang, X., Goddard, E.W., 2010. Analysis of Value-Added Meat Product Choice Behaviour by Canadian Households (No. 99703). University of Alberta, Department of Resource Economics and Environmental Sociology.

**Publisher's note:** Science Impact Publishers remain neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made. The images or other third-party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <https://creativecommons.org/licenses/by/4.0/>.