Determinants of Non-Vegetarian Food Purchase through Online Mode in Chidambaram Town of Tamil Nadu: A Case Study

S. Abithaa, T. Aishwarya, P. Aberna, R. John Christy and L. Muralikrishnan

Determinants of Non-Vegetarian Food Purchase through Online Mode in Chidambaram Town of Tamil Nadu: A Case Study

S. Abithaa*[1], T. Aishwarya[2], P. Aberna[3], R. John Christy[4] and L. Muralikrishnan[5]

A B S T R A C T

There is dearth of studies available in the literature regarding patterns and determinants of cooked Non-Vegetarian food purchase through online mode in semi-urban areas such as Chidambaram. Therefore, the present study was proposed with the objective to know the determinants of cooked Non-Vegetarian food purchase in semi-urban area. In total, 120 non-vegetarian consumers in Chidambaram town who consumed non-vegetarian food online during the year 2020-21 were randomly chosen for the study. Conventional percentage analysis was used to analyze the demographic data, linear regression model was fitted to assess the factors influencing the amount spent on non-vegetarian cooked food items online and Garett's Ranking Technique was used to understand the constraints of online non-vegetarian food purchase. Approximately 80 per cent of the online food ordering consumers completed their college education and around 70 per cent belonging to families had Rs. 10000 - Rs. 25000 monthly income band. R^2 value indicated that the model fitted found to be explaining 95.98 per cent of the variations in the dependent variable. Age of the consumer, educational status and average monthly household income were found to have significant positive correlation with the online spending level of consumers. Fear of getting old food, higher price of items compared to conventional mode of purchase, limited availability of varieties through online and missing hotel ambiance were ranked as top constraints for online non-vegetarian food purchase by the respondents.

Key words: Online ordering, Non-vegetarian food, Linear regression model, Garett's ranking technique

The shift in daily food consumption pattern away from cereal rich food to more expensive meat, poultry, and milk products is a consistent change associated with the economic growth world over [1-3]. The significant improvement in the general economy in developing countries resulting in striking alteration in food consumption patterns and purchasing behavior of consumers. Higher incomes, busier lifestyles, global interaction, information and communication technologies, urbanization, education, change in lifestyle, family structure, health awareness, greater choices in food retailers, the increasing availability of refrigeration, and the greater variety in food choice have all resulted in shifts of household consumption [4-8]. Rapid changes in the food consumption pattern of consumers have led to the emergence of a structured food retailing industry in developing countries and the Food market system has become more organized, customer centric and, in fact, is facilitating growth of organized food retailing [9].

India is known for its diversity in culture and believes, so also their eating behaviors. Understanding food purchasing behavior of consumers helps marketing professionals to plan, promote, and sale of the products more efficiently. Understanding consumer purchasing behavior allows companies to promote products and services more easily [10]. Further, to bring hitherto not-interested food customers to organized retail outlets for the purchase of non-vegetarian products, it is necessary to understand customers and their purchase behavior which varies for the consumers of bigger cities than that of middle and smaller cities [11]. Although, in recent decades efforts to understand consumers attitudes, or overall buying behavior and the relative importance of various attributes in purchasing food have been widely explored [12], but it has mostly remained limited to bigger cities where retails have already established.

There is dearth of studies available in the literature regarding patterns and determinants of cooked Non-Vegetarian food purchase through online mode in semi-urban areas such as Chidambaram. Therefore, the present study was proposed with the objective to know the patterns and determinants of cooked Non-Vegetarian food purchase in semi-urban areas such as Chidambaram so that the insight gained can be utilized to provide better services to the end consumers and may offer new avenues to the prospective entrepreneurs.

* S. Abithaa
✉ abithaasivakumar11@gmail.com

1-5 Division of Animal Husbandry, Faculty of Agriculture, Annamalai University, Annamalainagar - 608 002, Tamil Nadu, India

CARAS

Res. Jr. of Agril. Sci. (May-Jun) **12**(3): 760–763

761

MATERIALS AND METHODS

Chidambaram town of Tamil Nadu was selected purposely for the present study as this semi-urban town had an average literacy of 83.24% (Census 2011), compared to the national average of 72.99% and for the presence of one of the largest residential Universities. Simple random sampling technique was used to select the respondents. In total, 120 non-vegetarian consumers who consumed non-vegetarian food online during the year 2020-21 were randomly chosen for the study.

Collection of data

Relevant data were collected from the chosen respondents through personal interview using a pre-tested interview schedule. Cross checks were made to minimize the errors due to recall bias and also to ensure the reliability of the information provided by the respondents. The study was taken up during the months of March, 2021 and the data collected from the sample units were related to the year 2020-2021. The data collected included demographic particulars and they were also asked to share their non-vegetarian food purchasing patterns, amount spent, mode of purchase and reasons for choosing particular channel. Conventional percentage analysis was used to analyze the demographic data, linear regression model was fitted to assess the factors influencing the amount spent on non-vegetarian cooked food items online and Garett's Ranking Technique was used to understand the constraints of online non-vegetarian food purchase.

Linear regression model

Linear regression model was fitted to assess the factors influencing the amount spent on non-vegetarian cooked food items online. The form of the linear regression function fitted to assess the variables influencing average amount in rupees spent by consumers for the purchase of non-vegetarian cooked food items online was as follows:

$$S = A + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \Upsilon$$

Where;
S = Average monthly spending in Rupees by the consumers on the purchase of non-vegetarian cooked food items online
X_1 = Age in years

X_2 = Score for educational status of consumers (illiterate =0; upto secondary education=1; and upto college education=2)
X_3 = Dummy variables for Sex (Female =0; and Male = 1)
X_4 = Average monthly household income in rupees A,
β_1 = Co-efficients to be estimated
Υ = error term

Garett's Ranking Technique

Garett's ranking technique was used to analyze the constraints of online non-vegetarian food purchase. The respondents were asked to rank the constraints in the order of importance they felt for online mode of purchase. These orders of merit were transformed into units of scores by using the following formula:

$$\text{Percent Position} = \frac{100(R_{ij} - 0.50)}{N_j}$$

Where;
R_{ij} = Rank given for the 'i'th item by the 'j'th respondent
N_j = Number of items ranked by the 'j'th respondent

The percent position is converted into scores by referring to the table given by Garett. Then for each reason, the scores of individual respondents were added together and divided by the total number of respondents and the mean scores thus calculated were arranged in descending order and ranks were given [13]. By this method, the important reasons for choosing online mode for purchasing non-vegetarian food items were identified.

RESULTS AND DISCUSSION

The demographic details of the respondents were presented in the (Table 1). Male consumers constituted 57.5 per cent of the total respondents whereas remaining 42.5 per cent were females. Around 75 per cent of the total online non-vegetarian food purchasing customers were found to be less than 35 years of age. Approximately 80 per cent of the respondents completed their college education and none of the respondents was illiterate. Around 70 per cent of the respondents belonging to families had Rs.10000 - Rs.25000 monthly income band. Further 62 per cent of respondents were married [14-15].

Table 1 Demographic characteristics of respondents (in numbers)

Details	Male	Female	Total
Number of respondents	69 (57.5)	51 (42.5)	120 (100)
Age (in years)			
18-25	24 (20.0)	26 (21.6)	50 (41.6)
26-35	13 (10.8)	12 (10.0)	25 (20.8)
36-45	22 (18.3)	12 (10.0)	34 (28.3)
46-60	10 (8.3)	01 (0.1)	11 (8.3)
Highest educational qualification			
Primary Education	0 (0)	0 (0)	0 (0)
Secondary Education	12 (10.0)	13 (10.8)	25 (20.8)
College	57 (47.5)	38 (31.6)	95 (79.2)
Average monthly household income (in Rupees)			
Upto Rs. 10000	1 (0.8)	2 (1.6)	3 (2.4)
Rs. 10001- Rs. 25000	43 (35.8)	40 (33.3)	83 (69.1)
Rs. 25001- Rs. 50000	20 (16.6)	6 (5.0)	26 (21.6)
Above Rs. 50000	5 (4.1)	3 (2.5)	8 (6.6)
Marital status			
Unmarried	14 (11.6)	31 (25.9)	45 (37.5)
Married	55 (45.9)	20 (16.6)	75 (62.5)

Figures in the parentheses indicate percentages to total

CARAS

Table 2 Regression coefficients of the linear regression model fitted (Dependent variable : Average monthly spending in rupees by the consumers on the purchase of non-vegetarian cooked food items online)

Independent variables	Regression coefficient
Constant	-23.2223 (68.9227)
Age in years	13.868** (3.6964)
Educational status of consumers	29.8767* (50.3232)
Sex	-109.4559** (30.8855)
Average monthly household income in rupees	0.0033* (0.0023)
R^2	0.9598
Adjusted R^2	0.9358
F Statistics	35.3608**
Sample Size	120

Figures in the parentheses indicates respective standard errors
**Significant at 1 per cent level of probability
*Significant at 5 per cent level of probability

Table 3 Key constraints in online non-vegetarian food purchase as ranked by the respondents are listed below with their rank

Constraints	Garrett's mean score	Rank
Fear of getting old food	74.17	I
Higher price of items compared to conventional mode of purchase	63.42	II
Limited availability of varieties through online	61.21	III
Missing hotel ambiance	56.70	IV
Fear of receiving lesser quantity through online mode	44.56	V
Delivery Charges each order though placed at same time	43.12	VI
Peak hour delay in delivery	42.59	VII
Affordability of smartphones	31.73	VIII
Data Costs	24.52	IX

Linear regression model fitted to find out variables that had significantly affected the average monthly online spending of consumers on non-vegetarian food items with their coefficients were presented in (Table 2). R^2 value indicated that the model fitted found to be explaining 95.98 per cent of the variations in the dependent variable. The independent variables such as age of the consumer, educational status and average monthly household income were found to have significant positive correlation with the spending level of consumers as these factors may increase the awareness level and availability of online channels. The model also indicated that the male respondents were significantly spend more money compared to their female counterparts. This may be due to the reason that female respondents prefer homemade non-vegetarian food [16-17].

Key constraints in online non-vegetarian food purchase as ranked by the respondents are listed with their rank in (Table 3). Fear of getting old food, higher price of items compared to conventional mode of purchase, limited availability of varieties through online and missing hotel ambiance were ranked as top constraints for online non-vegetarian food purchase by the respondents [18].

CONCLUSION

The consumers' buying behavior such as quantity and frequency of purchase, expenditure pattern, and preferred mode of purchase for different non-vegetarian products can be influenced by gender, age, education, occupation, and income of the consumer, quality, hygiene, price, convenience, credit sale and availability in desired quantity and quality. Among these, this study found that age, gender, education and income of consumer played a very significant role in the online purchase of non-vegetarian food items. Focusing on these customers may significantly improve the online sales. Taking steps to nullify various constraints identified by this study may improve the online non-vegetarian food sales.

LITERATURE CITED

1. Huang J, Bouis H. 1996. Structural change in the demand for food in Asia, food, Agriculture, and Environment Discussion Paper No. 11, International Food Policy Research Institute, Washington, DC, available at: www.ifpri.org/sites/default/files/publications/2020_dp_dp11.pdf (Accessed March 3, 2012).
2. Meenakshi JV. 1996. How important are changes in taste? A state level analysis of food demand. *Economic and Political Weekly* 31(50): 3265-3269.
3. Rao PP, Birthal PS, Joshi PK. 2006. Diversification towards high value agriculture role of urbanization and infrastructure. *Economic and Political Weekly* 41(24): 2747-2753.
4. Veeck A, Veeck G. 2000. Consumer segmentation and changing food purchase patterns in Nanjing, PRC. *World Development* 28(3): 457-471.
5. KPMG. 2005. Consumer Markets in India: The Next Big Things, Publication No. 213-405, KPMG International, Mumbai.
6. Kaur P, Singh R. 2007. Uncovering retail shopping motives of Indian youth. *Young Consumers* 8(2): 128-138.

7. Pingali P. 2006. Westernization of Asian diets and the transformation of food systems: implications for research and policy. *Food Policy* 32(3): 281-298.

8. Ali J, Kapoor S, Moorthy J. 2010. Buying behavior of consumers for food products in an emerging economy. *British Food Journal* 112(2): 109-124.

9. Chen K, Shepherd AW, Silva CD. 2005. Changes in food retailing in Asia: implications of supermarket procurement practices for farmers and traditional marketing systems. Agricultural Management, Marketing and Finance Occasional Paper No. 8, Food and Agriculture Organization, Rome

10. Al-Gahaifi TH, Svetlik J. 2011. Factors influencing consumer behavior in market vegetable in Yemen. *Acta Universitatis Agriculture et Silviculturae Mendelianae* 59(7): 17-27.

11. NABARD. 2011. Current scenario of Indian food retail industry and future outlook of development of organized food retail. Organized Agri-Food Retailing in India, National Bank for Agriculture and Rural Development, Mumbai. pp 26-46.

12. Kiesel K, Villas-Boas SB. 2007. Got organic milk? Consumer valuations of milk labels after the implementation of the USDA organic seal. *Journal of Agricultural and Food Industrial Organization* 5(1): 1-40.

13. Christy RJ. 2004. Garrett's ranking analysis of various clinical bovine mastitis control constraints in Villupuram district of Tamil Nadu. *IOSR Journal of Agriculture and Veterinary Science* 4: 62-64.

14. Maruthesha MA, Baddi J, Vijayalakshmi D, Patil R. 2019. Impact of socio-economic status on food consumption pattern of rural farm women. *Asian Journal of Dairy and Food Research* 38(1): 49-54.

15. Nguyen H, Nguyen N, Nguyen B, Greenland S. 2021. Sustainable food consumption: Investigating organic meat purchase intention by Vietnamese consumers. *Sustainability* 13(2): e953.

16. Acebron LB, Levy Mangin JP, Calvo DD. 2000. A proposal of the buying model for fresh food products: the case of fresh mussels. *Journal of International Food and Agribusiness Marketing* 11(3): 75-96.

17. Quagrainie KK, Unterschultz J, Veeman M. 1998. Effects of product origin and selected demographics on consumer choice of red meats. *Canadian Journal of Agricultural Economics* 46(2): 201-219.

18. Kumar N, Kapoor S. 2015. Does the consumers' buying behavior differ for vegetarian and non-vegetarian food products? Evidences from an emerging market. *British Food Journal* 117(8): 1998-2016.