



## An Economic Study of Consumer Behaviour toward Organised Food Retail in National Capital Region of India

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### Abstract

The present study was carried out in National Capital Region (NCR) of India. Five zones viz. National Capital Territory (NCT) of Delhi, Ghaziabad, Noida, Gurgaon and Faridabad were selected and 60 consumers from each zone were sampled thus, a total of 300 consumers were selected for this study. Tabular analysis, conjoint analysis and logistic regression model were employed to study socio-economic indicators of consumers, their shopping behavior, preference for organised food retail and the factors influencing consumer purchase through organised food retail. During the study, it was observed that the level of education, monthly income of household, ownership of vehicle and working women in household positively influenced consumer preference for organised food retails. Majority of consumers from all five zones viz. NCT of Delhi, Ghaziabad, Noida, Gurgaon and Faridabad of NCR had no specific day of shopping and they shopped at weekly basis and spent one hour for shopping at organised food retails. The quality of products and proximity of retail outlets were important attributes for consumers to visit organised food retails. They preferred even higher price for quality products. Cash payment, wide range of products and self selection are being preferred by consumers.

**Keywords:** Organised food retail, consumer behaviour, consumer preference, attributes, conjoint analysis, logistic regression model

In recent years the Indian economy has seen the emergence of organised retail in various formats. Though the Indian organised retail industry is presently at nascent stage accounting for eight per cent of the total retail trade, it is fast growing and expanding industry and expected to reach to 24 per cent of the total retail trade by 2020 (ASA, 2012). Several factors have favoured the rapid expansion of organised retailing in India. These include, among others, changes in consumer needs and preferences, changing consumer lifestyles, desire for greater product variety, and greater international exposure coupled with easy access to information.

Consumer behaviour is the study of how individuals, groups and organisations select, buy, use

and dispose of goods, services, ideas or experiences to satisfy their needs and wants. It is a function of the individual involved (differences in preference towards different products between different groups of consumers), the product category (consumer behaviour differs from one product category to another) and the current environmental situation (consumer behaviour in respect of a product purchase is conditioned by social, cultural, economic, legal, technological and various situational factors) (Kotler, *et al.* 2011). All these are leading to a paradigm shift as the sector is getting organised and consumers are seeking one-stop shopping place with convenience and entertainment.

The scope for expansion of organised food retailing in India is enormous. Many national and global players

have been investing in the retail segment and having ambitious plans for further expansion. Present study was undertaken to find out the consumer behaviour towards organised food retail with some specific objectives. These are (1) to study the consumer shopping behaviour towards organised food retail; (2) to study the consumer preference for organised food retail and (3) to identify the factors influencing the consumer purchase through organised food retail.

## Data Base and Methodology

The study was carried out in National Capital Region (NCR) of India. Five major zones of NCR namely the National Capital Territory (NCT) of Delhi, Ghaziabad, Noida, Gurgaon and Faridabad were selected. Sixty consumers were randomly sampled from each zone thus a total of 300 consumers were selected. The socio-economic indicators of consumers, their shopping behaviour, as well as place of purchasing different commodities were studied. Consumers' preference for different attributes was studied using conjoint analysis as described by:

$$Y = \sum_{i=1}^n \sum_{j=1}^m V_{ij} X_{ij}$$

Where,

$i$  = Attributes

$j$  = Levels

$Y$  = consumers' overall evaluation of the retail alternative

$V_{ij}$  = part worth associated with 'j' (1,2,3, .....m) levels of 'i' (1,2,3 ..... n) attributes

$X_{ij}$  = dummy variable representing the preference of the  $j^{\text{th}}$  level of  $i^{\text{th}}$  attribute

The attributes and their levels were identified through discussions with the consumers and consultation with marketing specialists. The attributes identified in this study were quality of the products, location of the outlet, price of the products, mode of payment, range of the products and service from sales assistants.

Logistic regression was estimated to identify the factors that have bearing on consumer purchase at organised food retails. The functional form of the regression model used under this study is:

$$\text{Let, } P_i = E(Y = 1 | X_i) = \frac{1}{1 + e^{-z}} = \frac{e^z}{1 + e^z}$$

Where,

$$Z = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$$

Where,

$$\text{Odds Ratio} = \left( \frac{P}{1-P} \right) = e^{\hat{b}_0 + \hat{b}_i \bar{X}_i + u_i}$$

$P_i$  = Probability that consumer is willing to purchase from organised food retails

$1 - P_i$  = Probability that consumer is not willing to purchase from organised food retails

$Y_i$  = Consumer willing to purchase or not willing to purchase from organised food retails (Willing to purchase =1, Not willing to purchase = 0)

$X_1$  = Family size (Number of family members)

$X_2$  = Type of family (Joint = 1, Nuclear = 0)

$X_3$  = Education of head of the household (Years of schooling)

$X_4$  = Presence of working women (Working women =1, Women not working = 0)

$X_5$  = Monthly household income (₹)

$X_6$  = Ownership of vehicle (Having = 1, Not having = 0)

## Results and Discussion

Table 1 gives an account on socio-economic indicators of consumers. Majority of the consumers who regularly visited organised food retails had higher educational qualifications, with nearly 70 per cent being completed graduation and above. Majority of consumers were private employee in Ghaziabad, Noida, Gurgaon and Faridabad whereas it was government employee in NCT of Delhi. In all five zones of NCR, majority of consumers who purchased at organised food retails belonged to income group of ₹ 20,000 to ₹ 50,000 per month and had their own vehicle. There is no close relationship between the age, sex, and extent of utilizing departmental stores, whereas income and education had a close relationship with the extent of utilizing departmental stores (Manivannan and Raghunathan, 2004).

Table 2 gives information on place of purchase of different commodities. Consumers preferred organised food retails over traditional retails for purchase of grocery as well as other commodities such as beverages and ready to use products in NCT of Delhi, Ghaziabad,

**Table 1: Socio-economic indicators of consumers**

Sl. No.	Particulars/Categories	NCT of Delhi	Ghaziabad	Noida	Gurgaon	Faridabad
1	Age (year)	39.08	42.25	40.52	39.96	43.95
2	Male	40(66.67)	44(73.33)	49(81.67)	47(78.33)	49(73.67)
	Female	20(33.33)	16(26.67)	11(18.33)	13(21.67)	11(18.33)
3	Education					
	Bellow 10th	2(3.33)	2(3.33)	1(1.67)	1(1.67)	2(3.33)
	10th to 12th	9(15.00)	16(26.67)	12(20.00)	15(25.00)	14(23.33)
	Graduation	22(36.67)	19(31.67)	20(33.33)	19(31.67)	26(43.33)
	Post graduation	20(33.33)	19(31.67)	21(35.00)	21(35.00)	15(25.00)
	Doctorate	7(11.67)	4(6.67)	6(10.00)	4(6.67)	3(5.00)
4	Occupation					
	Student	7(11.67)	5(8.33)	5(8.67)	4(6.67)	6(10.00)
	Government employee	18(30.00)	18(30.00)	18(30.00)	18(30.00)	18(30.00)
	Private employee	16(26.67)	21(35.00)	22(36.67)	21(35.00)	19(31.67)
	Self employee	17(28.33)	14(23.33)	15(25.00)	17(28.33)	14(23.33)
	Others	2(3.33)	2(3.33)	0(0.00)	0(0.00)	3(5.00)
5	Household income(₹)/month					
	0- 10000	4(6.67)	4(6.67)	3(5.00)	3(5.00)	5(8.33)
	10001-20000	6(10.00)	1(1.67)	2(3.33)	2(3.33)	4(6.67)
	20001-30000	12(20.00)	20(33.33)	14(23.33)	19(31.67)	19(31.67)
	30001-40000	13(21.67)	21(35.00)	24(40.00)	19(31.67)	16(26.67)
	40001-50000	15(25.00)	6(10.00)	11(18.33)	12(20.00)	12(20.00)
	. > 50001	10(16.67)	8(13.33)	9(15.00)	5(8.33)	4(6.67)
6	Family size	4.23	4.60	4.67	4.27	5.20
7	House type					
	Owned	24(40.00)	29(48.33)	22(36.67)	24(40.00)	33(55.00)
	Rented	36(60.00)	31(51.67)	38(63.33)	36(60.00)	27(45.00)
8	Ownership of vehicle (No's)					
	None	10(16.67)	8(13.33)	17(28.33)	10(16.67)	16(26.67)
	Two wheeler	22(36.67)	29(48.33)	19(31.67)	21(35.00)	24(40.00)
	Four wheeler	16(26.67)	14(23.33)	16(26.67)	15(25.00)	13(21.67)
	Both	12(20.00)	9(15.00)	8(13.33)	14(23.33)	7(11.67)

Note: Figures in the parentheses are percentages to the total number of consumers

**Table 2: Place of purchase of different commodities by consumers from different zones**

(No. of consumers)

Sl. No.	Place of purchase	NCT of Delhi	Ghaziabad	Noida	Gurgaon	Faridabad
1	Grocery					
	Organised retail	47(78.33)	44(73.33)	48(80.00)	42(70.00)	36(60.00)
	Traditional retail	35(58.33)	36(60.00)	30(50.00)	40(66.67)	38(63.33)
	Other	5(8.33)	7(11.67)	8(13.33)	3(5.00)	10(16.67)
2	Fruit and vegetable					
	Organised retail	18(30.00)	10(16.67)	15(25.00)	13(21.67)	4(6.67)
	Traditional retail	12(20.00)	6(10.00)	13(21.67)	9(15.00)	12(20.00)
	Fruit and vegetable shop	34(56.67)	30(50.00)	32(53.33)	37(61.67)	41(68.33)
	Hawker	42(70.00)	47(78.33)	39(65.00)	44(73.33)	29(48.33)
	Others	9(15.00)	4(6.67)	2(3.33)	6(10.00)	8(13.33)
3	Milk and milk product					
	Organised retail	25(41.67)	27(45.00)	23(38.33)	29(48.33)	23(38.33)
	Traditional retail	23(38.33)	13(21.67)	18(30.00)	13(21.67)	26(43.33)
	Milk booth	49(81.67)	45(75.00)	39(65.00)	41(68.33)	43(71.67)
	Others	7(11.67)	2(3.33)	8(13.33)	10(16.67)	6(10.00)
4	Others					
	Organised retail	34(56.67)	35(58.33)	40(66.67)	38(63.33)	29(48.33)
	Traditional retail	21(35.00)	29(48.33)	29(48.33)	30(50.00)	40(66.67)
	Others	15(25.00)	11(18.33)	13(21.67)	16(26.67)	12(20.00)

Note: Figures in the parentheses are percentages to the total number of consumers.

**Table 3: Consumers preference of day and time of shopping**

(No. of consumers)

Sl. No	Categories	NCT of Delhi	Ghaziabad	Noida	Gurgaon	Faridabad
<b>Preferred day of shopping</b>						
1	Sunday	10(16.67)	6(10.00)	7(11.67)	12(20.00)	5(8.33)
2	No specific day	50(83.33)	54(90.00)	53(88.33)	48(80.00)	55(91.67)
	Total	60(100.00)	60(100.00)	60(100.00)	60(100.00)	60(100.00)
<b>Preferred time of shopping</b>						
1	Morning	8(13.33)	11(18.33)	9(15.00)	9(15.00)	8(13.33)
2	Evening	24(40.00)	24(40.00)	29(48.33)	28(46.67)	28(46.67)
3	No specific time	28(46.67)	25(41.67)	22(36.67)	23(38.33)	24(40.00)
	Total	60(100.00)	60(100.00)	60(100.00)	60(100.00)	60(100.00)

Note: Figures in the parentheses are percentages to the total number of consumers.

**Table 4: Duration and frequency of shopping by consumers**

(No. of consumers)

Sl. No	Categories	NCT of Delhi	Ghaziabad	Noida	Gurgaon	Faridabad
<b>Duration of shopping</b>						
1	1 hr	23(38.33)	24(40.00)	28(46.67)	29(48.33)	26(43.33)
2	1-2 hr	22(36.67)	19(31.67)	16(26.67)	15(25.00)	18(30.00)
3	2-3 hr	6(10.00)	8(13.33)	6(10.00)	5(8.33)	5(8.33)
4	3-4 hr	6(10.00)	7(11.67)	6(10.00)	7(11.67)	8(13.33)
5	4-5 hr	3(5.00)	2(3.33)	4(6.67)	4(6.67)	3(5.00)
	Total	60(100.00)	60(100.00)	60(100.00)	60(100.00)	60(100.00)
<b>Frequency of shopping</b>						
1	Daily	5(8.33)	7(11.67)	6(10.00)	7(11.67)	10(16.67)
2	Weekly	25(41.67)	23(38.33)	29(48.33)	27(45.00)	22(36.67)
3	Monthly	10(16.67)	13(21.67)	10(16.67)	9(15.00)	10(16.67)
4	Once in two weeks	14(23.33)	12(20.00)	13(21.67)	14(23.33)	11(18.33)
5	Once in three weeks	6(10.00)	5(8.33)	2(3.33)	3(5.00)	7(11.67)
	Total	60(100.00)	60(100.00)	60(100.00)	60(100.00)	60(100.00)

Note: Figures in the parentheses are percentages to the total number of consumers.

**Table 5: Preferences of consumers for specific attributes of the organised food retailers**

Sl. No	Attributes	Levels	Utility	Relative importance (%)
1	Quality of the products	1.Premium 2.Average	2.66 -2.66	32.46
2	Location of the outlet	1.Near 2.Accessible 3.Doesn't matter	2.18 -0.10 -2.08	27.14
3	Price of the products	1.High 2.Medium 3.Low	-1.94 1.46 0.48	21.52
4	Mode of payment	1.Credit card 2.Cash 3.Monthly cash credit	-0.20 0.31 -0.11	7.70
5	Range of the products	1.Wide 2.Limited	0.58 -0.58	6.99
6	Service from sales assistants	1. Self selection 2. On request	0.07 -0.07	4.19

Pearson's  $R^2 = 0.962$ , Significance level = 0.000, Constant = 7.93

**Table 6: Factors influencing the consumer purchase at organised food retails**

Variables	b	e <sup>b</sup>
Family size (Number)	0.137	1.147
Family type (joint =1, Nuclear =0)	-0.158**	0.314
Education level of consumers (year of schooling)	0.125*	1.133
Working women of the household (working=1, not working =0)	0.872**	2.392
Household monthly income (Rs)	0.001*	1.001
Owning vehicle (Yes=1, Not=0)	1.206**	3.340
Constant	-3.634	0.026
Chi-square		87.92
Odds Ratio		5:1
Probability		0.86

Note: \*\* and \* indicates significant at 1% and 5% level, respectively.

Noida and Gurgaon whereas consumers from Faridabad preferred traditional retails for purchase of these commodities. For fruits and vegetables, hawker and fruit & vegetable shop being preferred over organised food retails. Majority of the consumers preferred milk booth to purchase milk in all five zones of NCR.

More than 80 % of consumers had no specific day for shopping. Majority of the consumers in NCT of Delhi and Ghaziabad had no specific time of shopping whereas consumers from Noida, Gurgaon and Faridabad preferred evening time for shopping (Table 3). Majority of the consumers from all five zones of NCR spent one hour and shopped at weekly basis at organised food retails (Table 4).

Preference of consumers for specific attributes towards the organised food retails were studied using conjoint analysis (table 5). Consumers' decision to prefer organised food retails to purchase different commodities is influenced by attributes such as, quality of the products, location of the outlet, price of the products, mode of payment, range of the products and service from sales assistants. Quality of the products received the highest importance of 32.46 per cent with a preference for premium quality, followed by location of the outlet (27.14 per cent) and price of the products (21.52 per cent). The overall result of the conjoint analysis revealed that, organised food retails should have wide range quality products. The quality of products and the proximity of the organised food retails were an important criterion for the consumers and they preferred even higher price for quality products. Mode of payment, range of products and service also influence consumers' preference with cash payment, wide range of products and self selection being preferred. Most significant factors influencing buying decisions were accessibility, quality, regular supply, door delivery and mode of payment (Kubendran

and Vanniarajan, 2005), consumers' attitude, range of products and locational convenience were the important factors which influenced consumers to visit organised retails. (Mohanty, 2012).

The factors influencing the consumer's preference to purchase at organised food retail were analyzed using the logistic regression model (Table 6). Joint families preferred traditional retail because elders in joint family preferred traditional methods of processing foods. The education level of the consumers had positive impact on probability of purchasing at organised food retails. The presence of working women increased the logit coefficient by 0.872 units. Due to preference of processed and ready to use products and also had high opportunity cost of time, working women generally preferred organised food retails for purchase of food products. Monthly income of the household and owning vehicle was also positively influencing the consumer purchase at organised food retail. The odds ratio was 5:1, indicating that among every 6 consumers, 5 were willing to purchase at organised food retails.

## Conclusion

Organised food retails were patronized by highly literate and high income group of the consumers. Consumers from NCT, Ghaziabad, Noida and Gurgaon had similar purchase place for different commodities whereas, different type of behaviour was observed for consumers of Faridabad. Quality of the products was assigned the highest importance of 32.46 % with a preference for premium quality, followed by location of the outlet (27.14 %) and price of the product (21.52 %). The education level, monthly income of the household, working women and owning vehicle were positively influencing the consumer purchase at organised food retails.

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