

## **CONSUMER BUYING BEHAVIOR IN ORGANIZED FOOD RETAIL MARKETS IN THE EMERGING CITIES OF INDIA**

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### **ABSTRACT**

The present work attempts to examine the buying behavior of consumers in the organized food retail segment in the tier-II cities of India that can reflect the health status and cautiousness too. This work is based on primary data using a structured questionnaire. For analyzing the collected data this work uses statistical tools of Independent Sample t-Test and one-way ANOVA. The outcome of the work suggests that buying behavior of consumers is identical with respect to consumers with different income groups, and consumers with different levels of education. Also, there is no mean difference for consumers with different employment statuses. The outcome of the work also indicates that buying behavior varies with a change in the marital status of consumers with respect to the selection of branded food items. The findings of the study will benefit retail managers in designing and implementing their marketing strategies.

**Keywords:** Buying Behavior, Organized Retail, Retail Food, Retail Market.

**JEL Classification:** M31, L81

### **INTRODUCTION**

Food consumption is a significant public health concern in Asian countries [1], this paper majorly focuses on food buying behavior in organized retail which provides safer and cleaner foods to consume. Consumers used to buy from organized retail stores because of the availability of fresh and processed food, making the buying process more convenient and simple. In India, consumer buying behavior in the food segment of organized retail demonstrates the requirement for fresh food from a retail store. In the organized retail segment of India, buying behavior of consumers has demonstrated a sizable change in its attributes because of a change in modern shopping [2], lifestyle [3], retail store expansion [4], psychological variables [5], and

demography [6], which entails the organized retail managers and researchers to gain an insightful view of consumer buying behavior in order to tap the organized retail market.

Consumer behavior refers to the behavior of individuals, groups, or organizations, and it is a process where they choose, remain, use, and remove a product, service, experience, or idea to satisfy their needs, which impacts the consumer and society [7]. From USD 641 billion in the year 2016, the Indian retail sector market is expected to reach USD 1.3 trillion by the year 2026, with a Compound Annual Growth Rate (CAGR) of 10 percent [8]. Research manifests that consumer behavior is tough to forecast, even for resource persons in any field [9]. Consumers seek a number of variables and offerings from an organized retailer, to manifest the efficiency of their buying behavior. The choice of customer has increased manifold with the intervention of organized and modern retailing, simultaneously organized retailing has increased the quality of food products, and provides better procurement of food products by using the latest technologies. Thereby, providing better health management both for consumers as well as at the retailer's end.

## **REVIEW OF LITERATURE**

While studying the consumer buying behavior in the food segment of the organized retail industry of India, it is found that buying behavior in the food retail segment of India has witnessed a remarkable change due to the preference for cleanliness/freshness [10], hygiene and quality [11] by the consumers. There are some other factors too which engross a consumer towards an organized retail store, and among those factors health and safety are two major attributes which a consumer seeks through food products [13]. Consumer's rising expenditure in the food segment has increased the concern about food quality among Indian consumers [10a, 11a, & 12]. Quality is one of the most sought-after factors that a consumer seeks while shopping in organized retail [2a, 14, & 15].

Consumers use to check the food label while buying a food product, which is a significant parameter to knowing the health feature of a particular food item. Private labeling and branding of the products also benefit organized retailers. Keller suggests that by using their store name, or by blending two names, or by creating new names, retailers can float a new brand in the organized retail market [16]. Health is also a vital attribute about which a consumer is concerned, and wants to know the health benefits through the labeling of food products [17, 18, 19, 20, & 21]. Serving a broad variety of fresh, processed and semi, and fully prepared food under single roof makes organized retailing an obvious choice for consumers [24 & 25]. Service quality, perceived quality and merchandised quality are the major tools of the retailers, to attract maximum number of consumers to their stores. In the rural areas of India, quality and trustworthiness are the two factors which attract consumers to rural retail outlets.

Pricing of the food product is another major factor that influences the consumer buying behavior in the food segment of organized retail [10a, 22]. Studies have shown that modern retailing is offering more choices to the consumer at the same or lower price when compared to traditional retailers, which entices a customer towards organized retail. In addition, the supply chain plays the role of a vital determinant to curtail the prices of products, which is eventually related to the development and expansion of modern retailing [23].

Socio-economic, demographic, geographic, and psychographic factors also affect the shopper when choosing a retail store of food and grocery items [26 & 27]. Studying consumer behavior encompasses the study of the decision-making process of buyers, both as an individual and as a group. It tends to study the demographic characteristics and behavioral variables of the consumers. It also tries to retrieve the influences on the consumer from groups such as family, friends, sports groups, and society [28]. Psychography is a major variable that assists in estimating the buying behavior of consumers [29].

Buying behavior in organized retail is also influenced by the income of the consumers, where income plays a significant role in demonstrating the buying behavior of a consumer, because the income of a consumer helps in estimating the expense in food retail stores by a consumer. Organized retailers want to tap each and every segment of the consumers, hence in order to target the low-income group of consumers, sachet revolution has been adopted by the retailers [30]. Income also tends to change the psychographic buying behavior of the consumers [31]. Studies suggest that with the increase in the disposable income there is a decline in the disposable time in modern food and grocery segment in India [32]. Income and occupation are the two most vital factors, which influences the consumer buying behavior in the consumer durable segment [33].

### **Objectives of the Study**

- The primary objective of this work is to analyse the buying behavior of consumers in organized food retail segment, with a region specific study of Ranchi City of Jharkhand state.
- This work also analyses the differences between the buying behavior of different consumer groups. In this context, the current work aims at studying the changes in the buying behavior of consumers with a change in their income, gender, marital status, age, education, occupation and employment.
- This work provides a better understanding of consumers buying behavior of organized food retail segment, with a specific address to different gender, different marital status, different income, different education, different occupation type and different employment type.

## **Conceptual Framework**

The above literature has been discussed in the context of identifying the factors which influences the buying behavior of a consumer. These factors are related to the consumer's; a) culture and lifestyle b) product's brand and quality c) income level of consumer d) occupation of consumer e) location of the retail store f) psychographic variables of consumer g) health, safety and nutritional values of food products and h) price of food products. Based on the literature review, this work intends to carry out an experimental study for analysing the buying behavior of consumers, which a consumer demonstrates while buying food products from organized retail market (more or less these products are packaged products). However, for further clarity, this work also assumes that consumers are also buying food products which are not packaged, such as vegetables and fruits. Accordingly, following hypothesis will be tested;

H<sub>1</sub>; Consumer's behavior varies with the variation in male and female consumers

H<sub>2</sub>; Consumer's behavior varies with the variation in their age

H<sub>3</sub>; Consumer's behavior varies with the variation in a married and single consumer

H<sub>4</sub>; Consumer's behavior varies with the variation in their level of education

H<sub>5</sub>; Consumer's behavior varies with the variation in their income level

H<sub>6</sub>; Consumer's behavior varies with the variation in their employment

H<sub>7</sub>; Consumer's behavior varies with the variation in their occupation

## **RESEARCH METHODOLOGY**

### ***Sample Size and Location***

Data used for this work were collected through direct and indirect interviews (both online and offline). For filling up the questionnaires, consumers were directly interviewed and questionnaires were filled up, all of the consumers interviewed used to reside in different parts of Ranchi City. Accordingly, responses were received and data were collected, and convenience sampling was selected for the study. The survey questionnaires were filled up by the consumers of organized food retail markets in Ranchi City. Therefore, the study is location specific study in its very nature. Organized food retail markets are scattered in various locations of Ranchi City, mainly at Main Road, Hinoo, Circular Road, Kanke Road, Namkum, Ratu Road, Bariyatu, Harmu, and Ashok Nagar. These organized food retail markets have different multibrands retailers like Reliance Fresh, Food Bazaar, Big Bazaar, Usha Martin Sakhari Upbhokta Bhandar, Suvidha Supermart, Reliance Hypermart. 183 respondents answered the questionnaire given to

them. Out of 183, responses from 7 respondents were deleted due to non-sampling errors. Therefore, 175 responses were taken into consideration for further analysis.

### **Questionnaire**

The survey questionnaire was prepared and structured in two parts.

#### ***Part 1 of Questionnaire***

First part consists of a demographic profile of respondents based on the discrete choice questions, which is shown below in Table 1.

**Table 1: Demographic Profiles of the Respondents**

<i>Characteristics</i>	<i>Respondents</i>
<b>Total</b>	175
Male	100 (57.1%)
Female	75 (42.9%)
<b>Age</b>	
20-29	46 (26.3%)
30-39	104 (59.4%)
40-49	20 (11.4%)
Above 50	5 (2.9%)
<b>Marital Status</b>	
Married	115 (65.7%)
Single	60 (34.3%)
<b>Educational Qualification</b>	
Upto 12 <sup>th</sup> (Senior secondary level or below)	12 (6.9%)
Graduation (Bachelor Degree)	53 (30.2%)
PG (Master Degree)	85 (48.6%)
MPhil/PhD	25 (14.3%)
<b>Income Level</b>	

Less than INR 10,000 (Lower Income Group)	34 (19.4%)
INR 10,000-19,999 (Below Normal Income Group)	34 (19.4%)
INR 20,000-29,999 (Normal Income Group)	28 (16.0%)
INR 30,000-39,999 (High Income Group)	25 (14.3%)
More than INR 40,000 (Higher Income Group)	54 (30.9%)
<b>Employment Type</b>	
Temporary	10 (5.7%)
Self Employed	27 (15.4%)
Private	94 (53.7%)
Govt. Jobs	14 (8.1%)
Retired	30 (17.1%)
<b>Occupation Type</b>	
Own small shop	16 (9.2%)
Semi-skilled labour	0 (0%)
Govt. Officials/ Teacher/Private Practitioners	62 (35.4%)
Private Professionals/ Mid Level Managers	48 (27.4%)
Large scale business Owner	49 (28.0%)

### ***Part 2 of Questionnaire***

Second part of the questionnaire consists of 21 questions related to consumers buying behavior. Out of the total 21 questions, 18 questions are on Likert scale (from Q1-Q18). These 18 questions cover various aspects of food retailing including price, quality, health and nutrition, brand and labeling, location of a food retail store, retail environment, varieties of food products, and reference group influence.

The remaining 03 questions of the questionnaire part 2 (Q19, Q20 & Q21) are related to the product's category a consumer buys, frequency of a consumer's visit to organized retail markets, and monthly expenses a consumer spend on packaged/non-packaged food items in organized retail markets. Thus, the second part of the questionnaire is related to consumer's buying behavior.

## **Questionnaire Testing**

The collected data was tabulated in SPSS, version 16.0. Initial 73 survey questionnaires were tested for reliability analysis. The survey questionnaire has both the characteristics of Likert scale based questions, and discrete choice type questions. Therefore, two stages of reliability tests were done.

### ***Stage 1 of Reliability Test***

In the first stage reliability test was conducted on only 18 questions which were structured on Likert scale. The result of the reliability test is based on the Cronbach's Alpha test. The result suggests that Cronbach's Alpha is 0.825 for the 18 questions, which indicates that our questions are reliable and have high internal consistency. Moreover, Chronbach's Alpha remains 0.81 to 0.83 if any other question is deleted. This suggests that the questions are reliable and possess internal consistency.

### ***Stage 2 of Reliability Test***

Second stage was to obtain Cronbach's Alpha score of all 21 questions related to consumers buying behavior. When the reliability test is carried out on all 21 questions, the reported Chronbach's Alpha is 0.760 which is still high, which indicates that questions are internally consistent.

## **Data Analysis**

All the above mentioned questions are important for examining the differences in consumer behavior, which keep changing with a change in the demographic characteristics of consumers. To examine these differences, we have carried out the following statistical analysis.

### ***Independent Sample t test***

It was conducted to understand whether there are significant differences in buying behavior of consumers, when they are compared with categories like male and female, and of married and single. This test is used because of only two factorial groups in the gender category i.e. male and female. This test provides two separate values for the t Test and F Test.

If P value of F Test is significant then we consider t Test value for mean differences with equal variance not assumed. And if the P value of the F test is non-significant then P value of t test with equal variances assumed is taken into consideration.

### ***One-Way ANOVA***

To conduct similar analysis with other demographic characteristics like age, income, education, employment and occupation, we have used One-Way ANOVA to compare the means of respondents by different groups with the identified demographic categories.

**Levene’s test**

To check the homogeneity of data, Levene’s test was applied.

**RESULTS and DISCUSSIONS**

**A. Consumer’s buying behavior with respect to Quality and Health Related Preferences**

We conducted an Independent Sample t Test to analyse the difference in the buying behavior of male and female, and married and single consumers. There are 4 questions related to product quality and health aspects, which are the following;

**Table A1: Independent Sample t Test**

Questions		Gender					Marital Status				
		F	Sig.	t	df	Sig. (2-tailed)	F	Sig.	t	df	Sig. (2-tailed)
Qa1	Equal variances assumed	4.06	0.05*	-3.27	173.00	0.00*	0.13	0.72	-0.57	173.00	0.57
	Equal variances not assumed			-3.39	172.77	0.00*			-0.55	106.66	0.59
Qa5	Equal variances assumed	0.69	0.41	-1.09	173.00	0.28	4.00	0.05*	-0.20	173.00	0.85
	Equal variances not assumed			-1.12	170.49	0.27			-0.18	99.59	0.86
Qa6	Equal variances assumed	0.47	0.5	-1.92	173.00	0.06	0.34	0.56	-1.99	173.00	0.05*
	Equal variances not assumed			-1.99	172.75	0.05*			-2.14	146.29	0.03*
Qa7	Equal variances assumed	3	0.09	-1.29	173.00	0.20	0.61	0.44	-1.69	173.00	0.09



Equal variances not assumed			-1.35	172.61	0.18			-1.81	144.14	0.07
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\* Significant at 0.05 level

As per the results of Table A1, it is clear that there is a significant difference in the buying behavior of female and male consumers on account of Qa1 and Qa6. It means that female and male consumers behave differently in respect of availability of fresh and processed food. On the other hand, both male and female consumers are behaving in the same manner on account of Qa5, and Qa7. In other words, buying behavior of male and female consumers is identical when they seek quality, nutritional value, and health & safety in the forefront while buying food products from retail outlets. In the same way, differences in buying behavior of married and single consumers is examined. The result further describes that there is no significant difference between the buying behavior of married and single consumers, except that a significant difference is reported in the case of Qa6. Which shows that the buying behavior of married and single consumers is significantly different while choosing a food product of nutritional value.

**Table A2: One-Way ANOVA for Quality and Health**

Questions	Age		Education		Income		Employment		Occupation	
	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value
Qa1	1.208	0.31	1.814	0.147	0.86	0.489	0.367	0.832	1.792	0.151
Qa5	0.847	0.47	1.369	0.254	2.181	0.073	1.003	0.408	2.71	0.047*
Qa6	1.494	0.22	0.211	0.889	1.118	0.349	0.625	0.646	0.112	0.953
Qa7	0.588	0.62	1.465	0.226	0.722	0.578	0.948	0.438	0.186	0.906

\* Significant at 0.05 level

As we have argued earlier that for the rest of the cases, the work uses One-Way ANOVA, considered to measure the mean difference between the responses on the above cited four questions related to quality and health by various groups categorised in the demographic characteristics of age, education, income, employment, and occupation. In almost all of these demographic characteristics, 4 and 5 subgroups are categorized. The result of this analysis suggests that only variation in buying behavior is reported when occupation of the respondents varies. This simply means that consumers of all age groups, with different education levels,

having different levels of income and employed in different professions are behaving identical with respect to the health and quality of food products they are buying from retail markets. In particular, they are buying packed food from the retail markets. Since a significant change is reported only in case of change in occupation, with respect to the Qa5 (i.e. quality of food item is prerequisite for consumers). Hence, it is essential to examine the difference between the groups falling under the category of occupation, and for this purpose a post hoc analysis is used. For further analysis, it is necessary to understand whether the data is homogeneous or heterogeneous. Levene’s test suggests that this data is homogeneous as the value of LeveneStatistics is not statistically significant. Therefore, for further examination of mean difference between the groups, this work uses Least Significant Difference (LSD) test as given in SPSS. For question Qa5 (related to quality of food item), LSD test indicates a significant difference in the buying behavior between the owner of small shops and government and private job holders. P Value of LSD between the owner of small shops and government/private teachers and professors is 0.013, and between the small shop owners and Private Professionals/Mid level Managers is 0.025 (significant at 0.05 level). Henceforth, this result suggests that the null hypothesis is rejected, and alternate hypothesis is accepted in the case of response on questions related to quality and health/nutrition.

***B. Consumer’s buying behavior with respect to Price Related Aspects***

The same exercise was carried out for checking up this hypothesis. The statistical techniques were used in the same manner as mentioned above for the rest of the questions. Independent Sample t Test and One Way ANOVA was used to understand the changes in buying behavior of consumers, with a change in the demographic profile of the consumers, with reference to price related aspects (including discounts and offers).

**Table B1: Independent Sample t Test**

Questions		Gender					Marital Status				
		F	Sig.	t	Df	Sig. (2-tailed)	F	Sig.	t	df	Sig. (2-tailed)
Qa2	Equal variances assumed	0.43	0.51	-1.05	173.00	0.29	0.25	0.62	-0.26	173.00	0.79
	Equal variances not assumed			-1.06	163.17	0.29			-0.26	110.92	0.80

Qa3	Equal variances assumed	0.33	0.57	0.63	173.00	0.53	2.46	0.12	1.10	173.00	0.27
	Equal variances not assumed			0.62	147.51	0.54			1.01	94.13	0.32
Qa4	Equal variances assumed	7.25	0.01	-2.61	173.00	0.01	5.03	0.03	0.96	173.00	0.34
	Equal variances not assumed			-2.71	172.9	0.01			0.89	99.94	0.37

\* Significant at 0.05 level

The result of mean difference suggests that buying behavior of male and female consumers is identical, and no significant difference is reported on account of Qa2 i.e. price of the food products, and Qa3 i.e. offers and discounts of the food products. However, buying behavior of male and female consumers differ significantly on account of selecting retail store after collecting information about food products prices from different sources (Qa4). As yet married and single consumers are concerned, the statistical test suggests that both the consumers are behaving similarly or in the same fashion for Qa2, Qa3 and Qa4. This result has a unique relevance, as generally it is perceived that both male and female buyers behave differently, but when it comes to buy packaged food products from a retail outlets, buying behavior of both male and female buyers is identical with respect to price, and discount and offers in choosing retail outlets. In fact, if there is a discount, then both male and female will behave identically.

**Table B2: One Way ANOVA**

Questions	Age		Education		Income		Employment		Occupation	
	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value
Qa2	0.90	0.45	0.42	0.74	2.18	0.07	1.61	0.17	3.38	0.02*
Qa3	0.67	0.57	0.60	0.62	2.77	0.03*	1.64	0.17	1.36	0.26
Qa4	0.99	0.40	1.49	0.22	1.61	0.17	1.81	0.13	0.66	0.58

\* Significant at 0.05 level

Next task is to examine the changes in buying behavior of consumers with a change in their age, education, income, employment, and occupation. For this purpose, One-Way ANOVA is used and the result of this exercise is presented in Table B2. On the questions related to prices and

discounts, consumers of all ages behave almost identical. Also the consumers with different education level demonstrates the same buying behavior, as there is no significant mean differences in their responses with a change in their education and age. Same is in the case of employment levels, wherein price and discounts are effective in the same percentage to all categories of the people who are employed. However, there is a significant difference on account of occupation with respect to Qa2 i.e. Price of food products matters while choosing a retail store. Similarly, a variation in income level also suggests a significant variation in the buying behavior of consumers with respect to Qa3 i.e. Offers and discounts on food products affects their buying behavior. To further examine the difference of buying behavior between exact groups, test of homogeneity was carried out by using Levene’s Statistics for Qa2 and Qa3, which shows their Levene’s Statistics as .482 and .388, suggesting that the data is homogeneous. Therefore, to examine the variation between exact groups we used LSD test. As per LSD test, significant difference is reported in the response between small shop owners and private professionals and mid level managers, which is reported with P-value less than 0.05 level on account of the importance of price of product for choosing a certain retail outlets. On account of Qa3 i.e. offers and discounts, a significant variation is reported with the variation in their income. The buying behavior of respondents falling in the group of income below INR 10,000 have significantly different responses from the consumers with income group from INR 10,000-15,000. Such variation is also reported between the groups of respondents with income below INR 10,000 and consumers with income above INR 25,000. Consumers with income group INR 15,000-20,000 and INR 20,000-25,000 also behave significantly different with a significant mean difference. Thus, this Hypothesis is partially accepted for consumers behavior related to prices and discounts.

**C. Consumer’s buying behavior related to Brand and Label of food products**

**Table C1: Independent Sample T Test**

Questions		Gender					Marital Status				
		F	Sig.	t	Df	Sig. (2-tailed)	F	Sig.	T	df	Sig. (2-tailed)
Qa8	Equal variances assumed	0.00	0.98	0.09	173.00	0.93	6.24	0.01*	-0.60	173.00	0.55
	Equal variances not assumed			0.09	165.41	0.93			-0.56	99.19	0.58
Qa9	Equal variances assumed	0.40	0.53	-0.10	173.00	0.92	1.08	0.30	-1.97	173.00	0.05*

	Equal variances not assumed			-0.09	156.47	0.92			-2.00	123.76	0.05
Qa10	Equal variances assumed	0.13	0.72	0.67	173.00	0.51	3.54	0.06	-0.22	173.00	0.82
	Equal variances not assumed			0.66	156.32	0.51			-0.21	101.47	0.84

\* Significant at 0.05 level

The result indicates that the buying behavior of consumers with respect to selecting food product’s Brand and Label is partially different because of a difference in their marital status. However, no significant difference is reported in the consumers buying behavior with the variation in their gender. In other words, both male and female consumers, and married and single consumers are behaving identical on account of the question related to selection of branded food items. A significant mean difference is reported in the responses by married and single consumers on account of food product’s label and information on product’s label. The result of Table C1 also suggests a significant mean difference between the single and married respondents with two tailed t test of responses on Qa9.

**Table C2: One Way ANOVA**

Questions	Age		Education		Income		Employment		Occupation	
	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value
Qa8	0.59	0.63	1.12	0.34	1.14	0.34	1.02	0.40	1.05	0.37
Qa9	1.68	0.17	1.39	0.25	0.92	0.46	1.02	0.40	2.27	0.08
Qa10	0.53	0.66	2.51	0.06	0.26	0.91	0.97	0.42	1.80	0.15

Table C2 suggests that there is no significant difference between the buying behavior of consumers of different income groups, and consumers with different levels of education, and there is no significant mean difference for consumers with different employment status. Therefore, this hypothesis is rejected and the null hypothesis is accepted.

***D. Consumer’s buying behavior with respect to Retail environment and Availability of Food Product's Variety in a food retail store***

**Table D2: Independent Sample t Test**

Questions		Gender					Marital Status				
		F	Sig.	t	df	Sig. (2-tailed)	F	Sig.	t	df	Sig. (2-tailed)
Qa11	Equal variances assumed	0.04	0.84	1.93	173.00	0.06	0.42	0.52	1.19	173.00	0.24
	Equal variances not assumed			1.89	146.42	0.06			1.13	103.89	0.26
Qa12	Equal variances assumed	2.08	0.15	0.99	173.00	0.32	5.94	0.02*	1.01	173.00	0.31
	Equal variances not assumed			1.01	169.06	0.31			0.92	92.88	0.36
Qa15	Equal variances assumed	0.02	0.88	0.08	173.00	0.94	1.29	0.26	-0.32	173.00	0.75
	Equal variances not assumed			0.08	170.57	0.94			-0.30	108.04	0.76
Qa16	Equal variances assumed	10.81	0.00*	-1.09	173.00	0.28	0.33	0.57	-0.53	173.00	0.60
	Equal variances not assumed			-1.13	172.98	0.26			-0.51	109.05	0.61

\* Significant at 0.05 level

The results of Table D1 suggests there is no significant mean difference between the buying behavior of male and female respondents, and between the single and married respondents on account of Qa11 i.e. availability of varieties of food items helps in buying, Qa12 i.e. the availability of varieties of food items helps in store selection, Qa15 i.e. influence of friendly/good behavior of the retailer on the buying behavior, and Qa16 i.e. Salesman’s approach in a retail store influence the buying behavior.

**Table D2: One Way ANOVA**

Questions	Age		Education		Income		Employment		Occupation	
	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value
Qa11	3.31	0.02	2.72	0.05	2.00	0.10	2.72	0.03	3.47	0.02
Qa12	0.28	0.84	0.48	0.70	1.82	0.13	0.91	0.46	2.21	0.09
Qa15	0.25	0.86	1.57	0.20	2.25	0.07	2.99	0.02	2.37	0.07
Qa16	0.43	0.74	1.12	0.34	1.40	0.24	2.19	0.07	0.46	0.71

Significant at 0.05 level

Table D2 describes the results of One Way ANOVA, which indicates there is a significant mean difference between the groups of different ages on account of Qa11 i.e. availability of varieties of food items helps in buying. Similarly, mean difference is reported with the variation in education, employment, and occupation for Qa11, which shows that the varieties of food products and its availability in a retail store has different role in selecting and buying a product for different groups of age, education, employment and Occupation. Qa12 i.e. the availability of varieties of food items helps in store selection, and Qa15 i.e. influence of friendly/good behavior of the retailer on the buying behavior, and Qa16 i.e. Salesman’s approach in a retail store influence the buying behavior, have almost identical impact on consumers of different age groups, level of education, income groups, employment groups and types of occupation. Only exception is reported in the buying behavior of different groups of employed people, where they demonstrate a significantly different response on account of Qa15. Hence, hypothesis is partially accepted and the null hypothesis is partially rejected.

***D. Consumer’s Buying behavior with respect to store location and influence of reference group***

**Table E1: Independent Sample t Test**

Questions		Gender					Marital Status				
		F	Sig.	t	df	Sig. (2-tailed)	F	Sig.	t	df	Sig. (2-tailed)
Qa13	Equal variances assumed	2.00	0.16	-0.39	173.00	0.70	2.50	0.12	0.56	173.00	0.57

	Equal variances not assumed			-0.39	165.16	0.69			0.54	104.71	0.59
Qa14	Equal variances assumed	0.05	0.83	3.47	173.00	0.00*	1.43	0.23	0.05*	173.00	0.96
	Equal variances not assumed			3.45	155.11	0.00*			0.05*	104.61	0.96
Qa17	Equal variances assumed	14.51	0.00*	-1.74	173.00	0.08	0.21	0.64	-1.12	173.00	0.27
	Equal variances not assumed			-1.84	170.69	0.07			-1.08	107.91	0.28
Qa18	Equal variances assumed	14.67	0.00*	-2.25	173.00	0.03*	1.15	0.29	-0.97	173.00	0.34
	Equal variances not assumed			-2.36	172.64	0.02*			-0.97	121.87	0.33

\* Significant at 0.05 level

Table E1 indicates that there is a significant mean difference in the buying behavior of male and female consumers with reference to Qa14 i.e. location of a food retail store from office/workplace, and Qa18 i.e. collecting food product’s information from the influencing groups before buying. However, both male and female consumers behave identical on account of Qa13 i.e. location of a food retail store from home, and Qa17 i.e. opinion of peer group influences the buying behavior.

**Table E2: One Way ANOVA**

Questions	Age		Education		Income		Employment		Occupation	
	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value
Qa13	0.40	0.75	0.72	0.54	0.97	0.43	2.02	0.09	0.39	0.76
Qa14	1.70	0.17	1.17	0.33	1.96	0.10	1.29	0.28	1.47	0.22
Qa17	1.08	0.36	1.83	0.14	1.48	0.21	0.90	0.47	1.13	0.34
Qa18	0.82	0.48	1.53	0.21	1.47	0.22	1.57	0.19	0.86	0.46



Table E2 presents the results of One Way ANOVA, which indicates that there is no significant mean difference between the groups of different ages, education, income, employment and occupation for the questions Qa13, Qa14, Qa17 and Qa18. Hence the null hypothesis is rejected and alternate hypothesis is accepted.

**E. Consumer’s Buying behaviorwith respect to monthly expenses on food products, visits paid to food retail store, and type of food products bought**

Three questions were asked from respondents regarding their monthly expenditure (Less than INR 9,999/INR 9,999-14,999/INR 15,000-19,999/INR 20,000-24,999/More than INR 25,000) on food products they buy from a retail store, types of food they buy (vegetables/dairy products/ready to eat/fruits and dry fruits/wheat and flour/any other type of food products), and their frequency of visit (Regularly i.e. more than once a week/Occasionally i.e. once a week/Rarely i.e. once a month) to a food retail store. Responses of all of these three questions are not on Likert scale. These questions are the followings;

**Table F1: Independent Sample t Test**

Questions		Gender					Marital Status				
		F	Sig.	t	df	Sig. (2-tailed)	F	Sig.	T	df	Sig. (2-tailed)
Qa19	Equal variances assumed	21.92	0.00*	2.58	173.00	0.01*	5.24	0.02*	1.55	173.00	0.12
	Equal variances not assumed			2.84	145.27	0.01*			1.66	142.82	0.10
Qa20	Equal variances assumed	4.54	0.03*	0.35	173.00	0.73	0.05	0.83	-2.97	173.00	0.00*
	Equal variances not assumed			0.35	167.79	0.72			-2.98	121.66	0.00*
Qa21	Equal variances assumed	0.10	0.76	0.45	173.00	0.65	3.39	0.07	1.37	173.00	0.17
	Equal variances			0.46	166.32	0.65			1.32	107.91	0.19

	not assumed										
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\* Significant at 0.05 level

Table F1 result shows that the buying behavior of both male and female is the same for Qa20 i.e. type of food products they buy from a retail store, and Qa21 i.e. their frequency of visits to a food retail store. However, a significant difference is reported in the buying behavior of male and female for Qa19 i.e. consumer’s monthly expenditure on food products they buy from a retail store. Table F2 also brings out the results for the mean differences between the buying behavior of single and married respondents, as both married and single respondents demonstrates their buying behavior in the same manner. Their responses are identical except in the case of Qa20 i.e. type of food products they buy from a retail store, where a significant mean difference is reported. Table F1 further shows a significant change with a change in the consumer’s age groups and income levels with respect to Qa19 i.e. consumer’s monthly expenditure on food products they buy from a retail store. A significant difference in buying behavior is reported with a change in consumer’s groups of age, income, and occupation for Qa20 i.e. type of food products they buy from a retail store. Consumers of all ages, income levels, education levels and occupation types are behaving identically or similar with respect to Qa21 i.e. their frequency of visits to a food retail store. Thus, the Hypothesis A is partially accepted.

**Table F2: One Way ANOVA**

Questions	Age		Education		Income		Employment		Occupation	
	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value	F Value	P Value
Qa19	1.34	0.26	1.67	0.18	8.44	0.00*	0.49	0.74	2.79	0.04*
Qa20	3.86	0.01*	1.76	0.16	2.86	0.03*	0.44	0.78	2.79	0.04*
Qa21	0.30	0.82	0.79	0.50	2.16	0.08	1.31	0.27	1.78	0.15

\* Significant at 0.05 level

With the above analysis of Table F2, it is evident that in most of the cases, buying behavior of consumers do not changes significantly with a change in the demographic profiles such as gender, marital status, age, income, employment type. Therefore, the null hypothesis A is partially rejected and alternate hypothesis is accepted.

**CONCLUSION**

This work presented the demographic analysis of consumer buying behavior in organized retail food segment of Ranchi, Jharkhand. The statistical results of this work manifests that male and female consumers demonstrate a significantly different buying behavior when they seek fresh and processed food, and nutritional value from food products being sold out in a food retail store. About the price of food products, and offers and discounts on the food products being offered in a retail store, no significant difference is reported between male and female consumer's buying behavior. However, buying behavior of male and female consumers differ significantly on account of selecting retail stores after collecting information about food products prices from different sources, i.e. average score of the scaled value is 3.7 for male consumers, and 3.9 for female consumers. With respect to selection of branded food items, no significant difference is reported in the consumers buying behavior with the variation in their gender.

The results suggest that, consumers having different levels of income are behaving identical with respect to the health and quality of food products they use to buy from food retail markets. However, a variation in income level also suggests a significant variation in the buying behavior of consumers with respect to offers and discounts on the food products, i.e. average score of the scaled value is 4.4 for the consumers earning less than INR 10,000 per month (Lower Income Group), and 3.8 for the consumers earning between INR 30,000-39,000 per month (High Income Group).

Results further suggest that consumers of all age groups are behaving identical with respect to the health and quality of food products they are buying from retail markets. However, a significant mean difference is reported between the groups of different ages on account of availability of a variety of food items, i.e. average score of the scaled value is 4.0 for the consumers lying between the age of 20-29 years, and 3.4 for the consumers lying above the age 50.

Results also suggest that consumers employed in different professions are behaving identical with respect to the health and quality of food products they are buying from retail markets. As per LSD test, a significant difference is reported in the response between small shop owners and private professionals and mid level managers, which is reported with P-value less than 0.05 level on account of the importance of price of product for choosing a certain retail outlet. In terms of seeking quality food, there is a significant difference between the owner of small shops and government and private job holders. Similarly, mean difference is reported with the variation in employment of the consumers when they demonstrate their buying behavior with respect to availability of variety of food items. Which shows that the variety of food and its availability has a different role in selecting and buying a product for different forms of employment.

Results also manifests that consumers with different education levels are behaving identical with respect to the health and quality of food products they are buying from retail markets. Similarly, mean difference is reported with the variation in education of the consumers when they demonstrate their buying behavior with respect to availability of variety of food items, i.e. average score of the scaled value is 4.0 for the consumers who have studied upto 12th (Senior secondary level or below), and 4.3 for the consumers who have studied MPhil/PhD. Which shows that the variety of food and its availability has different roles in selecting and buying a product for different levels of education.

The results also suggest that there is no significant mean difference between male and female respondents when it comes to demonstrate their buying behavior with respect to availability of variety of food items, friendly/good behavior of the retailer, and salesman approach in a retail store. The result further indicates that there is a significant difference in the buying behavior of male and female consumers with reference to the location, i.e. retail stores located nearer to their office/workplace, and collecting a food product's information from the relatives and family members, i.e. average score of the scaled value is 3.7 for male consumers, and 3.4 for female consumers. The result further shows that the buying behavior of both male and female is the same in terms of the type of food products they buy from a retail store, and their frequency of visits to a food retail store. However, in the case of consumer's monthly expenditure (Less than INR 9,999/INR 9,999-14,999/INR 15,000-19,999/INR 20,000-24,999/More than INR 25,000) on food products they buy from a retail store, a significant difference is reported in the buying behavior of male and female consumers, i.e. average score of the scaled value is 1.5 for male consumers, and 1.2 for female consumers.

When it comes to examine the buying behavior of married and single consumers, it is found that there are no significant differences between them, when they seek fresh and processed food, quality food items, and health and safety in a food product from a food retail store. However, a difference is reported in terms of seeking nutritional value from a food product. Result also indicates that the buying behavior with respect to selection of branded food items, varies with a change in the marital status of consumers. A significant mean difference is also reported in the responses by married and single consumers on account of label and information on product's label. With respect to the availability of varieties of food items, friendly/good behavior of the retailer, and salesman approach in a retail store, the result suggests that there is no significant mean difference between the single and married respondents. In terms of buying type of food products (vegetables/dairy products/ready to eat/fruits and dry fruits/wheat and flour/any other type of food products), a significant difference is reported in the buying behavior of married and single consumers.

On account of occupation, the results suggest that there is a significant change in buying behavior with the change in occupation of the consumers with respect to the price of the food products, i.e. average score of the scaled value is 4.6 for Small Shop Owners, 3.9 for Private Professionals/Mid Level Managers. A significant difference in buying behavior is reported with a change in consumer's occupation in terms of buying different types of food products.

### **Limitations of the study**

Limitation provides further avenues for research work. As the very nature of the work is location centric, which tends to describe the buying behavior of the population based at Ranchi, Jharkhand. Results of western, southern, and northern parts of India may vary in terms of determining the buying behavior.

### **Managerial Implications**

Present study has the managerial implications and will significantly help the retail managers and policy makers to design their marketing strategies. Quality and health attributes of any food products needs to be assessed more deeply and accurately by the retail managers, as it is found to be the most sought after characteristic by the consumers of every segment.

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