

## **A STUDY OF CHOICE OF RETAIL FORMATS FOR PURCHASE OF FRUITS AND VEGETABLES BASED ON DEMOGRAPHIC VARIABLES OF GUJARAT, INDIA**

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***Abstract:** In India, food and grocery retailing and particularly retail formats selection and their choice. That too for perishable products like Fruits and Vegetables which forms the staple segment of each and every person has been not often studied in Indian context especially Gujarat as a region. The literature indicates that consumers' choice of retail outlet is a multiple variables experience and may be analyzed by looking at the shoppers' demographic attributes, which for eternity determines the choice or preference of the shoppers'. Traditionally, in India the unorganized retail formats have dominated the markets which were the primary retail outlets for purchase of Fruits and vegetables in Gujarat as a region. Therefore, this study sought to determine consumers' preference for a selection of either more preference is given to either organized or unorganized retail formats in Gujarat for Fruits and Vegetables purchase based on a number of socio-economic variables. A total of 234 structured questionnaires were administered and data were analyzed with SPSS. The results of the study showed that gender, education and occupation are the most patronized variables in selecting either organized or unorganized retail formats in Gujarat. The study suggests family size, gender and income of the respondents do not influence the consumers' preference for selecting retail formats for purchase of Fruits and Vegetables in Gujarat. The unorganized retail formats appear to be still outperforming the organized format. But increase in education, youth, technology knowhow may change the scenario in coming years.*

***Keywords:** Demographic, Fruits and Vegetables, chi-square, unorganized, organized.*

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## INTRODUCTION

Consumers collectively make millions of decisions a day on where to shop for food. The results of these decisions are critical to retailer performance. Much effort is expended on getting consumers to 'switch' their main food store shopping trip behaviors (Cummins *et. al.*, 2008). Modern food consumer is highly concerned about the safety and quality of the food products purchased (Galvez-Nogales and Wall, 2005). Traditional eating patterns are not a characteristic of aware and affluent consumers (Thøgersen and Ölander, 2002). As multiple branded products and services are being easily available to the consumers in the market, the decision making will play an important role selecting these products and services from widely diversified branded products and services of their choice (Kuhar and Juvancic, 2012). So study of consumer behaviour is need in terms of the different type of products they purchase which can be classified into:

- (a) Organized retail formats
- (b) Unorganized retail formats

Since organised retailing is a recent phenomenon in Indian context, not much insight is available till date. It is also observed that food and grocery retailing is the most promising area to set up retail business for domestic as well foreign companies in India. This fact is vindicated by the entry of domestic giants and foreign companies. This is an unchartered and unexplored research area in an Indian context where few empirical studies examined and contributed to the existing knowledge. Towards this end, this study and its outcome is a significant contribution to the field of store choice behaviour literature in Indian retailing context. Hence, this study assumed significance aiming to examine the association between shoppers' characteristics and store format choice decisions in food and grocery retailing in India

## LITERATURE REVIEW

Demographic factors such as age, gender, marital status, income, female working status, education, occupation and family size exert enormous influence on choice of store format in grocery retailing (Bellenger and Korgaonkar, 1980; Zeithaml, 1985; Kopp *et. al.*, 1989; Sampson and Tigert, 1992; South and Spitze, 1994; Stone, 1995; East *et. al.*, 1995a; East, 1997; Mason, 1996; McGoldrick and Andre, 1997; Arnold, 1997; Bawa and Ghosh, 1999; Sinha and Banerjee, 2004; Fox *et. al.*, 2004; Carpenter and Moore, 2006). Traditional demographic variables cannot identify the complete characteristics of an evolutionary retail market because consumers in the same demographic group have very different psychographic make-up (Sinha, 2003).

Many authors have studied these factors in purchasing of perishable products so (Ozguven, 2012; Reddy *et. al.*, 2010; Webber *et. al.*, 2010; Goethals *et. al.*, 2012) to study all the category of the products will be difficult as it has a different product life cycle,

the main category that can be studied is the Fruits and Vegetables category of the product as, in Indian Context it is a day to day product of the Indian Consumers and it becomes very essential to study the effect of the behaviour of the Different Mind-set of these highly fragmented segment of the society in purchasing Fruits and vegetables in India. To identify the different factors, attributes and variables that will determine the consumer behaviour to buy these products the appropriate retailer (Organized and Unorganized), channel of purchase, brands of fruits and vegetables in India.

### RESEARCH PROBLEM, CONCEPTUAL FRAMEWORK AND HYPOTHESES

Based on the brief review provided above the problems that will be addressed in this study are as follows:

1. To identify the most patronized retail outlet for Fruits and Vegetables in Gujarat.
2. To identify the demographic factors that influences the choice of retail format for the purchase of Fruits and Vegetables in Gujarat. Retail formats are categorized into two (2) major formats for the purpose of the study– Organized retail (modern retail) and Unorganized retail (traditional retail). So based on the above problems the retail format preference has been developed by the researcher which is frame worked in Figure 1.

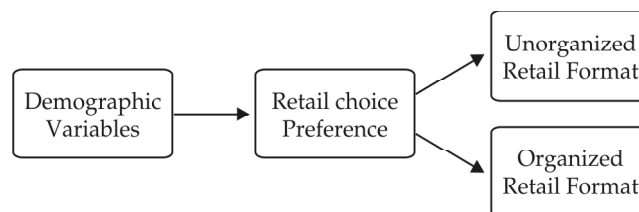
### RESEARCH HYPOTHESES

**Ho1:** There is no relationship between income and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

**Ho2:** There is no relationship between gender and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

**Ho3:** There is no relationship between age and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

**Ho4:** There is no relationship between education and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.



**Figure 1: Conceptual Framework for demographic variables with Retail format selection preference**

Source: Author's Study

**Ho5:** There is no relationship between family size and choice retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

**Ho6:** There is no relationship between ethnicity and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

## RESEARCH METHODOLOGY

To investigate if there was a relationship between the socio-economic variables outlined in the conceptual framework above and retail outlet choice a questionnaire was developed and pretested in January 2015. The researcher visited each of the 4 selected cities *viz.* Ahmedabad, Rajkot, Surat and Vadodara and conducted structured interviews of 234 respondents whom the researcher have identified as purchaser from different retail formats using structured questionnaire. Almost all the questionnaires were found to be valid and complete because the responses were personally recorded by the researcher.

A convenience sampling method was used in an attempt to get as large a sample size as possible in the shortest time. A total of 274 questionnaires were administered. After data cleaning, the final sample size utilized in the analysis was 234 (response rate = 85%). The relevant data was analyzed using SPSS version 21. The data collected was primarily nominal and ordinal; as such the analytical approach used was primarily descriptive. In marketing research the use of contingency tables or cross-tabulation analysis is very common (Hoffman and Franke 1986; Feinbery *et. al.*, 2013), and the present study used this approach to test the stated hypotheses.

## RESEARCH INSTRUMENT

According to Burns and Bush (1998), the value of the Likert scale format lies in the fact that respondents are asked to indicate how much they agree or disagree with the statement. In this survey, respondents were asked to indicate as to what extent they agree or disagree with the listed statements relating to the preferences of purchase of Fruits and Vegetables from various Retailors. The scale, therefore, recorded the intensity of their preference related to shopping of Fruits and Vegetables from various Retailers.

The final questionnaire used for data collection for stage two of the study was structured in 3 parts. Part I contained demographic characteristics of the respondents (age, gender, level of education, occupation, religion, marital status, family type, family size, family monthly income, dietary pattern and shopping with whom). A 5-point Likert scale was used to rate each of the identified parameter. It is rather difficult to measure such attitude (O'Keefe, 2002). We just can ask them to externalize the attitude we are interested in, but then we probably do not get a truthful answer (Thurstone, 1977).

## DATA ANALYSIS

An assessment of the normality of data is a prerequisite for many statistical tests because normal data is an underlying assumption in parametric testing. It was ensured that the questionnaires were compiled with the prerequisites of validity and reliability. Burns and Bush (1998) and Cooper and Schinder (1998) had suggested various methods of assessing reliability (the degree that a measure supplies consistent results), such as test-retest, split-half reliability and Cronbach's alpha. Cronbach's alpha is useful in indicating the degree to which instrument items are homogenous and reflect the same underlying construct(s). Based on the collected responses following Test were applied and demonstrated on the data for further analysis.

## RESULTS AND DUSCUSSION

Profile of respondents from the total 234 retail customers were approached for survey with 85% of the response rate. All respondents were adult male and female Fruits and Vegetables retail customers consisted of 126 female (53.8 percent) and 108 male (46.2 percent). The major chunk of the respondents (33.3 percent) had post-graduation and (31.2 percent) had graduation as their educational qualification with at least 18.8 percent had studied up to HSC as their minimum qualification as their academic qualification. The MHI between Rs. 10,001 - Rs. 30,000 with 42.3 percent respondents was the highest, so they fall under the middle income group followed by 25.6 percent between incomes Rs. 30,001 – Rs. 60,000. The results of respondent's demographic, socio-economic and geographic variables were summarised in Table 1.

| <i>Demographic Variables</i>     | <i>Label</i>        | <i>Frequency</i> | <i>Percentage</i> |
|----------------------------------|---------------------|------------------|-------------------|
| Gender                           | Male                | 108              | 46.2              |
|                                  | Female              | 126              | 53.8              |
| Age of Respondents               | Between 18-24 years | 50               | 21.4              |
|                                  | Between 25-30 years | 58               | 24.8              |
|                                  | Between 31-40 years | 40               | 17.1              |
|                                  | Between 41-50 years | 48               | 20.5              |
|                                  | Between 51-60 years | 26               | 11.1              |
|                                  | Above 60 years      | 12               | 5.1               |
| Educational Level of Respondents | Illiterate          | 6                | 2.6               |
|                                  | Up to 12th Standard | 44               | 18.8              |
|                                  | Under Graduate      | 73               | 31.2              |
|                                  | Post Graduate       | 78               | 33.3              |
|                                  | Others              | 33               | 14.1              |
| Occupation of Respondents        | Businessman         | 9                | 3.8               |
|                                  | Employee            | 88               | 37.6              |
|                                  | Housewife           | 50               | 21.4              |
|                                  | Retired             | 15               | 6.4               |
|                                  | Professionals       | 32               | 13.7              |
|                                  | Others              | 40               | 17.1              |

*Cont. table 1*

| <i>Demographic Variables</i>           | <i>Label</i>                    | <i>Frequency</i> | <i>Percentage</i> |
|--|---------------------------------|------------------|-------------------|
| Family Income of Respondents (Monthly) | Less than Rs. 10,000            | 30               | 12.8              |
|  | Between Rs. 10,001 - Rs. 30,000 | 99               | 42.3              |
|  | Between Rs. 30,001 - Rs. 60,001 | 60               | 25.6              |
|  | Above Rs. 60,000                | 45               | 19.2              |
| Family size of Respondents             | 2 or more person                | 19               | 8.1               |
|  | 3 - 5 persons                   | 142              | 60.7              |
|  | 6 - 8 persons                   | 55               | 23.5              |
|  | More than 8 Persons             | 18               | 7.7               |

## HYPOTHESIS

**Ho1:** There is no relationship between income and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat

| <i>Crosstab</i>             |                                 |   |                           |                              |
|-----------------------------|---------------------------------|---|---------------------------|------------------------------|
| <i>Count</i>                |                                 | <i>Which Retailer Respondent Prefer to purchase</i> |                           |                              |
|                             |                                 | <i>Mostly Organized</i>                             | <i>Mostly Unorganized</i> | <i>Total</i>                 |
| Family Income of Respondent | Less than Rs. 10,000            | 12  | 18                        | 30                           |
|                             | Between Rs. 10,001 – Rs. 30,000 | 40  | 59                        | 99                           |
|                             | Between Rs. 30,001 – Rs. 60,000 | 28  | 32                        | 60                           |
|                             | Above Rs. 60,000                | 26  | 19                        | 45                           |
| Total                       |                                 | 106   | 128                       | 234                          |
| <i>Chi-Square Tests</i>     |                                 |   |                           |                              |
|                             |                                 | <i>Value</i>  | <i>df</i>                 | <i>Asymp. Sig. (2-sided)</i> |
| Pearson Chi-Square          |                                 | 4.171 <sup>a</sup>                                  | 3                         | .244                         |

According to the analysis it is clearly identified that the value of Pearson chi-square is .244 which is more than the cut-off value of  $p \leq (0.05)$ . Hence it can be interpreted that, there is no influence of monthly income of respondent with that of their choice of retail formats to purchase of Fruit and vegetables in major cities of Gujarat. Hence, it fails to reject  $H_0$ .

**Ho2:** There is no relationship between gender and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat

| <i>Crosstab</i>      |        |   |                           |              |
|----------------------|--------|---|---------------------------|--------------|
|                      |        | <i>Which Retailer Respondent Prefer to purchase</i> |                           |              |
|                      |        | <i>Mostly Organized</i>                             | <i>Mostly Unorganized</i> | <i>Total</i> |
| Gender of Respondent | Male   | 57  | 51                        | 108          |
|                      | Female | 49  | 77                        | 126          |
| Total                |        | 106   | 128                       | 234          |

*Chi-Square Tests*

|                    | <i>Value</i>       | <i>df</i> | <i>Asymp. Sig. (2-sided)</i> | <i>Exact Sig. (2-sided)</i> | <i>Exact Sig. (1-sided)</i> |
|--------------------|--------------------|-----------|------------------------------|-----------------------------|-----------------------------|
| Pearson Chi-Square | 4.527 <sup>a</sup> | 1         | .033                         | .036                        | .023                        |

According to the analysis it is clearly identified that the value of Pearson chi-square is .023 which is less than the cut-off value of  $p \leq (0.05)$ . Hence it can be interpreted that, there is an influence of gender of respondent and their choice of retail formats to purchase of Fruit and vegetables in major cities of Gujarat. Hence, it rejects  $H_0$ .

**H<sub>03</sub>:** There is no relationship between age and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

*Crosstab*

|                   |                     | <i>Which Retailer Respondent Prefer to purchase</i> |                           |              |
|-------------------|---------------------|---|---------------------------|--------------|
|                   |                     | <i>Mostly Organized</i>                             | <i>Mostly Unorganized</i> | <i>Total</i> |
| Age of Respondent | Between 18-24 years | 25  | 25                        | 50           |
|                   | Between 25-30 years | 27  | 31                        | 58           |
|                   | Between 31-40 years | 20  | 20                        | 40           |
|                   | Between 41-50 years | 18  | 30                        | 48           |
|                   | Between 51-60 years | 13  | 13                        | 26           |
|                   | Above 60 years      | 3   | 9                         | 12           |
| Total             | 106                 | 128   | 234                       |              |

*Chi-Square Tests*

|                    | <i>Value</i>       | <i>df</i> | <i>Asymp. Sig. (2-sided)</i> |
|--------------------|--------------------|-----------|------------------------------|
| Pearson Chi-Square | 4.245 <sup>a</sup> | 5         | .515                         |

According to the analysis it is clearly identified that the value of Pearson chi-square is .515 which is more than the cut-off value of  $p \leq (0.05)$ . Hence it can be interpreted that, there is no influence of different age group of respondent on their choice of retail formats to purchase of Fruit and vegetables in major cities of Gujarat. Hence, it fails to reject  $H_0$ .

**H<sub>04</sub>:** There is no relationship between education and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat

*Crosstab*

|                               |     | <i>Which Retailer Respondent Prefer to purchase</i> |                           |              |
|-------------------------------|-----|---|---------------------------|--------------|
|                               |     | <i>Mostly Organized</i>                             | <i>Mostly Unorganized</i> | <i>Total</i> |
| Education Level of Respondent | 1   | 2   | 4                         | 6            |
|                               | 2   | 7   | 37                        | 44           |
|                               | 3   | 39  | 34                        | 73           |
|                               | 4   | 41  | 37                        | 78           |
|                               | 5   | 17  | 16                        | 33           |
| Total                         | 106 | 128   | 234                       |              |

*Chi-Square Tests*

|                    | <i>Value</i>        | <i>df</i> | <i>Asymp. Sig. (2-sided)</i> |
|--------------------|---------------------|-----------|------------------------------|
| Pearson Chi-Square | 19.806 <sup>a</sup> | 4         | .001                         |

According to the analysis it is clearly identified that the value of Pearson chi-square is .001 which is less than the cut-off value of  $p \leq (0.05)$ . Hence it can be interpreted that, there is an influence of level of education of the respondent and their choice of retail formats to purchase of Fruit and vegetables in major cities of Gujarat. Hence, it rejects  $H_0$ .

**H<sub>0</sub>5:** There is no relationship between family size and choice retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat.

*Crosstab*

|                           | <i>Which Retailer Respondent Prefer to purchase</i> |                           |     | <i>Total</i> |
|---------------------------|---|---------------------------|-----|--------------|
|                           | <i>Mostly Organized</i>                             | <i>Mostly Unorganized</i> |     |              |
| Family Size of Respondent | 1   | 9                         | 10  | 19           |
|                           | 2   | 64                        | 78  | 142          |
|                           | 3   | 23                        | 32  | 55           |
|                           | 4   | 10                        | 8   | 18           |
| Total                     | 106   | 128                       | 234 |              |

*Chi-Square Tests*

|                    | <i>Value</i>       | <i>df</i> | <i>Asymp. Sig. (2-sided)</i> |
|--------------------|--------------------|-----------|------------------------------|
| Pearson Chi-Square | 1.069 <sup>a</sup> | 3         | .785                         |

According to the analysis it is clearly identified that the value of Pearson chi-square is .785 which is more than the cut-off value of  $p \leq (0.05)$ . Hence it can be interpreted that, there is no influence of different sizes of the family of respondent for the choice of various retail formats to purchase of Fruit and Vegetables in major cities of Gujarat. Hence, it fails to reject  $H_0$ .

**H<sub>0</sub>6:** There is no relationship between occupation and choice of retail formats for the purchase of Fruits and Vegetables in major cities of Gujarat

*Crosstab*

|                          | <i>Which Retailer Respondent Prefer to purchase</i> |                           |     | <i>Total</i> |
|--------------------------|---|---------------------------|-----|--------------|
|                          | <i>Mostly Organized</i>                             | <i>Mostly Unorganized</i> |     |              |
| Occupation of Respondent | 1   | 7                         | 2   | 9            |
|                          | 2   | 47                        | 41  | 88           |
|                          | 3   | 12                        | 38  | 50           |
|                          | 4   | 8                         | 7   | 15           |
|                          | 5   | 12                        | 20  | 32           |
|                          | 6   | 20                        | 20  | 40           |
| Total                    | 106   | 128                       | 234 |              |



## Chi-Square Tests

|                    | <i>Value</i>        | <i>df</i> | <i>Asymp. Sig.<br/>(2-sided)</i> |
|--------------------|---------------------|-----------|----------------------------------|
| Pearson Chi-Square | 16.854 <sup>a</sup> | 5         | .005                             |

According to the analysis it is clearly identified that the value of Pearson chi-square is .005 which is less than the cut-off value of  $p \leq (0.05)$ . Hence it can be interpreted that, there is an influence of occupation of the respondent and their choice of retail formats to purchase of Fruit and vegetables in major cities of Gujarat. Hence, it rejects  $H_0$ .

Based on the above tables and the analysis of the various hypothesis testing variables it was analysed that, Education of respondents, Occupation of respondents and Gender of the respondents has a significant influence towards the selection of the various retail formats in Gujarat. Also, on the author's analysis and significant results, they were compared with the past researcher's results that were having concurrent results with the author's study. It was concluded that the results were concurrent with variables that goes in line with the study of the above mentioned studies as follows:

Where, 1 = where there is a concurrent result with the author's study

0 = Where there is No concurrent result with author's study

## CONCLUSIONS AND RECOMMENDATION

So it can be concluded that in Researcher's study which is particular to the study in India especially limited to Gujarat gender, education and occupation plays a significant role in selecting retail formats. In, researcher's study it was observed that family size does not have a significant association with retail format selection and it contradicts all most all the study in buying Fruits and Vegetables in Gujarat. Also, it is observed that age does not have any significant in the selection of retail format in the study. Income has no significant association among the respondents in major of the studies. None of the study has considered Fruits and Vegetables as a specific product to purchase from retail formats in the above mentioned literature review. As of food and grocery has been considered as a whole segment, but here the author have emphasized towards perishable products in the segment especially towards Fruits and Vegetables.

A limitation of the study was the small sample size. In this regard it is suggested that future research use larger samples that might more accurately represent the population. It is also recommended that, retail formats irrespective of their shoppers' need to focus on other factors, such as, freshness, cleanliness, branded products especially in Fruits and Vegetables, location and surroundings, etc. in order to determine relevant attributes that attract customers and builds markets loyalty and retrieve the shoppers'.

**Table 1**  
**Comparison with previous researcher's with the analysis**

| <i>Previous Research</i>   | <i>Study Focuses on</i>            | <i>Country of Study</i> | <i>Age</i> | <i>Gender</i> | <i>Occupation</i> | <i>Education</i> | <i>MHH Income</i> | <i>Family Size</i> |
|--|------------------------------------|-------------------------|------------|---------------|-------------------|------------------|-------------------|--------------------|
| Prasad C.J.S., and A.R. Aryasri (2011)   | Food and Grocery                   | India                   | 1          | 1             | 0                 | 1                | 0                 | 1                  |
| Meng, T.W.J. Florkski, D.B. Sarpong, M.S. Chinan, and A.V.A. Resurreccion (2014) | Food Shopping in Retailer          | Ghana                   | 0          | 0             | 1                 | 1                | 0                 | 1                  |
| Mirza, S. (2010)   | Food and Grocery                   | Pakistan                | 0          | 0             | 1                 | 1                | 0                 | 1                  |
| Prasad C.J.S., and Reddy D.R.(2007)  | Food and Grocery                   | India                   | 1          | 0             | 0                 | 1                | 0                 | 1                  |
| Iqbal, H.K., Ghafoor, M.M., and Shahbaz, S. (2013)                               | Store Selection for food purchases | Pakistan                | 0          | 0             | 0                 | 1                | 0                 | 1                  |
| Okello, J.J., CJ. Lagerkvist, S. Hess, M. Ngigi, and N. Karanja (2012)           | Vegetable retail outlet            | Kenya                   | 0          | 0             | 1                 | 1                | 0                 | 0                  |
| Oghojafor, B.E.A., and Nwagwu, K.O. (2013).                                      | Grocery Products                   | Nigeria                 | 0          | 0             | 1                 | 0                | 1                 | 0                  |
| Fox <i>et.al.</i> (2004)   | Variety of Stores                  | United States           | 0          | 0             | 1                 | 1                | 0                 | 1                  |

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