

# Association and Correlation between the Independent Variables and Buying of Consumer Goods: A Study with Reference to Rural Market of Shivamogga District, Karnataka

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## Abstract

Rural markets have played a significant role in growth of the emerging economies. In India, the economic growth in the last two decades and governments' focus on rural economy boosted consumption and production levels in the rural India. Rural markets and consumers are a lot more heterogeneous than their urban counterparts are. Keeping the facts that the rural market is not so rural and evolving significantly as well as demographic variables are significantly affecting their buying behavior in the mind, the present study had five objectives to fulfill. With the help of four hypotheses, the study has fulfilled the objectives. The primary data were collected with the help of structured questionnaires and SPSS 20 software was used to analyze the data. The outcome proves that there exists a significant association and correlation between demographic variables and buying of consumer goods in rural market. Various demographic variables have their own role to play, and ignorance of anyone could lead to the debacle in rural market; hence, to win the lion heart of rural consumers, marketers must consider the demographic variable and its association, segment the market based on it and then try to position the products accordingly; in this way, possibly, they may succeed.

**Keywords:** Association & Correlation, Demographic Variables, Motives, Satisfaction

## Introduction

Rural markets have played a significant role in growth of the emerging economies. In India, the economic growth in the last two decades and governments' focus on rural economy boosted consumption and production

levels in the rural India. India's rural market would be larger than total consumer markets in countries such as South Korea or Canada, today. Marketers and researchers have come to realize that 'rural' could no longer be ignored; this has generated a considerable interest in 'rural marketing'. Rural markets and consumers are a lot more heterogeneous than their urban counterparts are. At the same time, in emerging countries, 'rural' is also vulnerable, disadvantaged, marginalized, poor, and ignored. Rural consumption and penetration levels for most fast-moving consumer goods (FMCGs) are significantly lower compared with those in urban India. However, with rapidly rising incomes and a growing middle class, the demand for most categories is expected to explode. With the increase in purchasing power and the demand for a wide variety of products by the rural consumers, the rural markets offer new and greater opportunities to manufacturers of several consumer and industrial products in India. To tap this vast and expanding market, companies are developing effective marketing and advertising strategies based on their study and understanding of the rural consumer behavior. There are certainly significant differences in the buying behavior of the rural consumers from the standpoint of product development, pricing policies, distribution, and after-sales service, which create differences in requirements for marketing strategies in rural India.

The rural consumer's decision-making process is quite different than urban consumer's is (Prakash. HS & Mustiary Begum. 2016). It is proved that there are various unique factors that influence rural consumer behavior;

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hence, understanding the rural consumer behavior, decision-making process and factors of influence is not as easy as urban consumers' is. There are various independent variables, which exert huge force on consumer decision-making process. Hence, the present study aimed to understand the association between the independent and dependent variable and know up to what extent selected major factors like gender, income, and educational level will influence consumer behavior.

## Review of Literature

**Anil Kumar Yadav & Preeti Singh, (2012)** have given statistics about rural market and FMCG products. Many factors would have contributed to this paradigm change in rural market. In spite of whooping untapped rural market, only handful of companies could make inroads in it. These include ITC, HUL, Nirma, and LG. The author has mentioned the strategies for rural market. Agriculture production is growing year by year putting more money in rural consumers' hand. According to National Council for Applied Economic Research (NCAER) study, there are almost twice as many "lower middle income" households in rural India as in the urban areas. The MSP set by the government has been rising further, fuelling rural growth by putting more money into the hands of the rural population. Another interesting factor is the farm economy, which with zero-tax on farm income creates far more disposable income. In the conclusion, author said that now globalization, privatization, liberalization, IT revolution, improved infrastructure, electronic media, increased rural income, and Indian Diaspora have entirely changed the rural marketing and it is necessary to develop the fascinating 'village value', comprising of originality, purity, and quality of product, to conquer untapped robust consumption potentiality of 120 million household of the 'Rural India'.

**Ratika Rastogi and Sonia Chaudhary, (2012)** critically evaluated the rural consumer behavior towards selected product of consumer good viz. TV, Washing Machine, and Refrigerator in Meerut. Authors have stressed the point that knowing about the consumer behavior in this ever-changing era is very significant, because the buying behavior changes rapidly due to the reasons of increased income, changing lifestyle, etc. Then, the authors have

highlighted the characteristics of rural consumer and major factors that influence rural consumer buying decision. The major objectives of the paper are to find out the factors influencing the consumers for brand preference, study the most preferred brand of washing machine, TV and Refrigerator, examine the factors that motivate rural people to buy consumer durables, and understand the buying behavior of rural consumers with special reference to their income and need. The major observations are that the income and reasons of buying the consumer durables are dependent on each other and the income and the duration of planning before purchase of the consumer durables are independent.

**N Ramanjaneyalu (2012)** has explained the in and out of rural market, the buying behavior of the aspiring rural consumers, and factors causing the shift or change in the rural market. Author justified his stand by quoting some valid statistics as rural India consumes 45% of all soft drinks, 50% of sales of motorcycles, TVs, cigarettes, detergents, fans, blades, and a lot others. 70% of new subscribers for telecommunication, 55% of new polices for LIC, 60% of India's annual consumption of gold and jewelry are from rural and semi-urban areas and 50% of DTH connections are from rural market. Author has mentioned some good strategies to win the heart of rural consumer by following the selection of good sales force, 'Foot in the Door' and 'Bundling of Inputs'. In the conclusion, the author stressed the point that corporate sector needs to realize that to be successful in the rural market; they must go in with clear long-term strategy. Marketer must have willingness to invest in rural market with equal importance, which they give to urban market.

**BVNG Chandrasekhar (2012)** has critically evaluated the rural consumer buying behavior, and discussed how rural market is different from its urban counterpart. In addition, rural market is price-sensitive market too; thus, low-priced branded product moves well. In the conclusion, author said that still in rural market, male domination could be seen and females do not show much interested towards shopping and all. Still good number of families fall under BPL (Below Poverty Line) where their income is not enough for ends to meet. Those who win all these challenges effectively will be the leader of the goldmine market of rural.

## Methodology

### Objectives

- To know the socio-economic profile of the respondents.
- To measure the association between the independent and dependent variables.
- To measure the level of satisfaction.
- To know the motives behind buying a consumer durable goods.
- To suggest marketing strategies to tap the hidden potentiality.

### Type of Research

It is an exploratory study, because it tries to explore the association and correlations between the variables.

### Data Collection

Primary data were collected with a help of structures questionnaire. Questionnaires were administered personally and the meaning and requirements of the questions were explained. Questionnaires were designed in Kannada and English languages.

Secondary data were collected through census 2011 data, research publications, related magazines, and the Internet source.

**Table 1: Association between Demographic Variables & Purchase of Consumer Durables**

Independent Variables	Test	Test value	P value	Significance
Gender	Fisher's Exact Test	FETV = 41.006	P = 0.223 > 0.05	Not Significant
Marital Status		FETV = 20.510	P = 0.611 > 0.05	Not Significant
Family Type		FETV = 61.711*	P = 0.036 < 0.05	Significant
Occupation		FETV = 16.837*	P = 0.008 < 0.05	Significant
Annual Income		FETV = 40.192*	P = 0.049 < 0.05	Significant
Qualification		FETV = 66.901*	P = 0.037 < 0.05	Significant
Major Crop		FETV = 40.263*	P = 0.024 < 0.05	Significant

Source – Primary data

Table 1 reveals that there is a significant association between family type, occupation, annual income, qualification, major crop, and the purchase decision of

### Sampling Technique and Size

Simple random sampling technique has been used to select the sample respondents. The sample frame is entire rural population (Census 2011) above the age group of 22 year old. The total sample size is 180.

### Null Hypotheses

1. There is no significant association between demographic variables and purchase of consumer durables.
2. The usage of smartphone is not dependent on the level of education of the respondents.
3. Price is not the only prime motive to buy a consumer durable product.
4. There is no significant difference in the level satisfaction towards selected consumer durables based on gender.

### Testing the Hypothesis

#### Hypothesis - 1

**H<sub>0</sub>** - There is no significant association between demographic variables and purchase of consumer durables.

**H<sub>1</sub>** - There is a significant association between demographic variables and purchase of consumer durables.

consumer durables including television, refrigerator, washing machine, air-conditioner and microwave oven at 5% level of significance and there is no association

between with gender and marital status of the people of the village. Hence, the null hypothesis is accepted only with respect to gender and marital status of the respondents and is rejected in case of all remaining variables.

Therefore, it can be concluded that the purchase decision of consumer durables is significantly associated with family type, occupation, annual income, qualification, major crop but not with other variables. Marketer must

consider the level of income and education and then target with the suitable offerings.

### Hypothesis - 2

$H_0$  – The usage of smartphone is not dependent on the level of education of the respondents.

$H_1$  - The usage of smartphone is dependent on the level of education of the respondents.

**Table 2: Usage of Smartphone and the Level of Educational Qualification**

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	9.971	5	.076	.079	.072	.086
Likelihood Ratio	9.069	5	.106	.134	.126	.143
Fisher's Exact Test	17.466			0.335 (N.S)	.240	.150
Linear-by-Linear Association	9.000	1	.003	.002	.001	.003
N of Valid Cases	180					

Source - Primary data

It is evident from the data in Table 2 that the usage of smartphone is not dependent on the level of educational qualification at 5% level of significance as the calculated  $p$  value is  $>0.05$ . Hence, the study has accepted the null hypothesis and concluded that the mobile usage in the village is not at all dependent on educational qualification.

Further, it can be inferred that irrespective of the educational qualification, people of the village buy a

smartphone, because many applications supported by local languages enable them to use the smartphone.

### Hypothesis – 3

$H_0$  – Price is not only the prime motive to buy a consumer durable products in the village.

$H_1$  - Price is only the prime motive to buy a consumer durable products in the village.

**Table 3: Mean & Standard Deviation of the Motives**

Motives	Total		
	Mean	SD	N
Necessity	4.20	1.02	180
Comfort	4.00	.85	180
Status	3.22	1.33	180
Promotions	2.60	1.33	180
Product	3.16	1.19	180
Price	3.17	1.31	180

Source – Primary source

**Table 4: Ranks of the Motives to Buy Consumer Durables**

Motives	Mean Rank	Rank	Test
Necessity	4.70	1	Friedman’s Chi square value = 353.673 d.f = 5 p value = 0.000<0.01
Comfort	4.43	2	
Status	3.42	3	
Promotions	2.34	6	
Product	3.08	5	
Price	3.14	4	

Source – Primary data

Tables 3 and 4 provide the mean, standard deviation, and mean ranks of the different motives considered for the study. It is revealed that the price of the product has got the 4<sup>th</sup> rank as a prime motive, whereas motives like necessity, comfort, and status has got the top ranks,

respectively. Therefore, the study has accepted the null hypothesis and concluded that the people of the village buy consumer durables not because of just the low price of the product.

The Friedman’s chi-square test in Table 4 also proves that there is a significant difference in the mean ranking of the all motives at 5% level of significance. In addition, the opinion is highly significant.

**Hypothesis - 4**

**H<sub>0</sub>** - There is no significant difference in the level of satisfaction towards selected consumer durables based on gender.

**H<sub>1</sub>** - There is a significant difference in the level of satisfaction towards selected consumer durables based on gender.

**Table 5: Independent Samples Test**

Products		Levene’s Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Television	Equal variances assumed	0.846	0.358	0.282	179	0.778	0.020	0.070
	Equal variances not assumed			0.298	224.724	0.766	0.020	0.066
Refrigerator	Equal variances assumed	1.152	0.524	1.797	179	0.573	0.173	0.096
	Equal variances not assumed			0.814	123.116	0.572	0.173	0.095
Two-wheelers	Equal variances assumed	0.125	0.724	-0.826	179	0.241	-0.132	0.159
	Equal variances not assumed			-0.93	79.948	0.355	-0.132	0.142
Mobile phones	Equal variances assumed	0.389	0.537	0.161	179	0.873	0.038	0.237
	Equal variances not assumed			0.168	9.486	0.87	0.038	0.227
Mixer Grinder	Equal variances assumed	0.001	0.972	-0.226	179	0.822	-0.020	0.088
	Equal variances not assumed			-0.225	213.187	0.822	-0.020	0.088

Source – Primary data

The calculation in Table 5 reveals the respondents’ overall level of satisfaction towards selected consumer durable goods in the rural market and the degree of difference in the opinion based on the gender. There is no significant difference in the opinion based on the gender of the respondents at 5% level of significance, as the calculated p value is >.05 for all the products/goods considered for the study. Further, the data can be interpreted that the

opinion of the respondents does not differ much based upon gender because the number of female respondents are very less and the women in the rural area often just voice their husband/father’s opinion than their own opinion. Hence, the level of satisfaction based upon gender is not significant.

## Correlation Analysis : Level of Satisfaction and Demographic Profiles

Table 6: Correlation Analysis

Variables		Television	Refrigerator	Mobile Phone	Two-Wheelers	Mixer Grinder
Annual Income (in Rs)	Correlation Coefficient	.612	.169**	.140	.218*	.585
	Sig. (2-tailed)	.011	.006	.040	.012	.007
	N	180	180	180	180	180
Educational qualification	Correlation Coefficient	.015	.537	.449	.255	.300
	Sig. (2-tailed)	.918	.040	.014	.128	.018
	N	180	180	180	180	180
Major crop	Correlation Coefficient	.352	.621*	.014	.817*	.003
	Sig. (2-tailed)	.036	.033	.868	.020	.957
	N	180	180	180	180	180
Age	Correlation Coefficient	.110*	.130*	.254	.293	.616
	Sig. (2-tailed)	.124	.036	.016	.018	.116
	N	180	180	180	180	180
Occupation	Correlation Coefficient	.221	.154*	.159	.160	.331
	Sig. (2-tailed)	.013	.013	.051	.029	.001
	N	180	180	180	180	180

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Source – Primary data

Table 6 reveals the correlation between demographic variables and buying of consumer durables in rural market. The major observations of Table 6 are as follows.

- Annual income, major crop, and occupation of the respondents are significantly correlated with the level of satisfaction of television. These three independent variables are interrelated to the criteria of annual income. Hence, annual income plays a vital role in deciding the level of satisfaction towards television in the rural market.
- The level of satisfaction towards refrigerators is positively correlated with all the independent variables considered for the study. It is very obvious that only young people who have little high income with good educational qualification will buy refrigerator then other. Hence, the level of satisfaction is directly correlated with all the independent variables at 5% level of significance.
- The level of satisfaction towards smartphone is positively correlated with income, education, and age of the respondents not with other variables at 5% level of significance. Obviously, mobile is considered as

a luxury than basic and it has second priority. Users that are more educated are more satisfied and age matters because compared to old-age people, young population uses more smartphones. Hence, these factors are more correlated.

- Except educational qualification, all other variables are positively correlated with the level of satisfaction towards two-wheeler at 5% level of significance.
- Annual income, educational qualification, and occupation are positively correlated with the level of satisfaction at 5% level of significance. Whereas, age and major crop also have positive correlation, but it is not significant.

Overall, it can be concluded based on the results that demographic variables are very much correlated with the level of satisfaction towards consumer goods they are using now. Many a time, marketers will get along with the opinion that anything can be sold in rural market as long as it is low priced. Those days have gone far away. Everyone has their own opinion about the products; they don't believe the products blindly. Therefore, understanding these facts could definitely help business community to cut through the untapped goldmine.

## Conclusions

Based on the overall results of the study, it can be concluded that demographic variables have significant association in deciding the purchase of consumer goods in rural market, mobile phones are so common that all economic class people will use irrespective of their income level. Educational qualification has a least role to play in deciding to go for a smartphone. Now-a-days, smartphones are becoming a basic need and all sections of people would like to own a set; hence, it is not that only educated people will use smartphones. The advance technology has helped companies to penetrate market with local languages. The one more evidential change in the rural market revealed in the study that not only the price of the product will drive rural consumer to buy a consumer goods, but also that more than the price of the product, necessity, comfort, and status drive it, which was something unusual earlier. The study has measured the role of gender in the level of satisfaction; the results reveals that gender has no role to play. It could be possible because the number of female respondents were comparatively less than their male counterparts. Finally, the study has tried to measure the correlation between the level of satisfaction and demographic variables. It is revealed that maximum variables are having a direct positive correlation with the level of satisfaction. Finally, the study has made an honest effort to fulfill the study objectives and concluded that there exists a significant association and correlation between demographic variables and buying of consumer goods in rural market. Various demographic variables have their own role to play and ignorance of anyone could lead to debacle in rural market; hence, to win the lion heart of rural consumers, marketers must consider the demographic variable and its association, segment the market based on it and then try to position the products accordingly; then possibly, the result would be definite.

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