

PLACE IMPACT ON PRICE SENSITIVITY

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Abstract: Consumers' price sensitivity to price changes is an important input for tactical and strategic decisions. Consumer reaction to price has been largely confined to examining consumers' price information search, evaluation of price alternatives, and individual purchase behaviors without regard to location influencers. It has been also argued that price sensitivities depend on factors such as advertising, brand image, availability of the brand and valuation of a product's overall attractiveness or utility. Although, Price sensitivity is often attributed to an individual, but aspects related to the location of the consumer set and its impact on price sensitivity is not explored fully. This research addresses the issue; whether individuals residing in diverse locations such as urban & rural exhibit different level of price sensitivity. We have examined this area across a study that individual's price sensitivity is in fact modified by their consumption location. The generalizations based on the study have important implications for the practitioners and researchers. For managers, the need to coordinate between pricing and competitive edge is the driver of success. Researchers can get the direction of future research from our summary and conclusive discussion.

Key Words: Price sensitivity, FMCG, Urban-Rural

INTRODUCTION

There is substantial evidence for variation in price sensitivities of a product across various stores and chains. In the prevailing environment, consumer's reaction to economic function of price is not irrational, as it is well established that consumer consider price as an attribute while forming buying decision. How consumer perceives; price gains and price losses in the reference price models, to insulate themselves from monetary losses i.e. the impact of prices on consumption. It empirically attempts to verify this strong actual correlation and dependence upon place i.e. Urban and Rural.

Price is what the consumer pays to get the right to use the product. It is the give-up by the consumer in an exchange. The pricing of a consumer product is a

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two-step process: producers charge retailers and retailers subsequently charge consumers, ignoring any distribution intermediaries. Dynamics of the pricing problem differ for a retailer and a producer. The retailer determines the final price on the shelf, whereas the producer can only affect the final price by changing the cost to retailer. The retailer has the control of prices for all products in a category, but producer can control the prices of its products only. Moreover, the retailers' inherent power in pricing is substantially strengthened with the recent developments in retailing. These developments include the consolidation into large retail institutions, fragmentation of consumer markets, and availability of store scanner data. As the retailers vests power in determining the consumer prices, assuming retailers as the "final intermediaries in the distribution channel" becomes inappropriate. Consequently, retailer orientation dominates producer orientation in recent marketing literature.

Today, most marketing executives cite pricing as the most important element of the marketing mix. This is an easily justifiable claim, as price is a key variable in all business equations like unit sales, sales revenue, and profit, it is the most flexible among the 4 P's. The impact of price on business results is usually immediate and quantifiable. Moreover, price significantly interacts with all the other marketing mix elements and creates perception based on price - like higher price for better quality - are easily communicable to the consumers.

Pricing problems are now being addressed with more sophisticated approaches, as their importance is appreciated by marketing executives. Before the 1980s, pricing was perceived as procedural work of adding a target return on costs: cost oriented era. Today, pricing is rather perceived as a key subject and its relation with demand is carefully engineered: demand-oriented era. Recent developments in academic literature appear to be parallel with the renewed interest in pricing.

Understanding the distinctive characteristics of the rural consumer is essential for any mass consumer product marketer that aims to reach this market. Earlier work (Prahlad, 2005) identified the three A's - Accessibility, Affordability and Availability - as essential components for reaching rural markets. Awareness - that is the knowledge of consumers about the existence of the product (Anderson & Markeides, 2007). The notion that low-income also form an important market is not new. Several authors have attended that poor people pay more for the same than the rich people (Caplovitz, 1963). The reason behind poor paying more is that they usually shop at small, independent stores, which charges higher prices, owing to their inefficiencies and higher operational costs (Berry, 1972).

Poor people tend to be more loyal to brands because they cannot make mistakes. The financial risk is too high, because if the product does not deliver the expected value, consumer will not be able to buy an alternative or branded product till the

product is consumed. Therefore, buying branded product is a rational behaviour (Prahlad, 2005).

One cannot doubt the importance of price for the consumer with limited budget. However, due to social cost, transport limitations and distribution inefficiencies, the poor usually pay more for the same products. It has also been argued that small-scale decentralized initiatives may make more sense in low-income markets (Christensen *et al.*, 2001). Based on the findings (Barki & Parente, 2006) suggest that choice of the preferred shopping destination is not based on pricing rather on satisfying economic, social and psychological need. Which suggest that hard discount stores, when competing with more service-oriented & efficient, satisfying the aspirations of the rural population, may not be the best store format? There is an understanding that consumer's buying behavior in all socio-economic segments are based on selecting the best alternative that maximizes the value; trading-off between benefits and costs. What differs among low income and high income consumer is the way they perceive the value proposition of products or brands. Owing to the limited budget, there is still a misconception that rural consumers just buy cheaper and quality compromised products. According to data lead brands of mass consumer goods satisfy the aspirations of those on low incomes. Apparently owing to economic deprivation, low income consumers have a positive perception of abundance and a high level of aspiration to feel socially included. The importance of relationship has been highlighted as one of the major marketing ingredient of success for any business enterprise (Morgan & Hunt 1994).

Rural people tend to create a stronger sense of community and social network, based on mutual help, from bargain trips to mutual cooperation. As competition increases in all market segments, successful companies must go for fulfilling consumer's objective needs. In order to foster the stronger relationship, companies will need to understand the social and psychological need and try to satisfy their symbolic needs. For large companies, it will be important to go beyond just researching the rural markets, could gain more relevance by identifying new alternatives of values to help improve communities and help them in day-to-day life.

The Objective

Based on the historical researches, researchers ambition is to explore the deviation in the level of price sensitivity among rural and urban consumers.

The Hypothesis

H_0 = The price sensitivity of buyer does not depend upon the location.

H_1 = The price sensitivity of buyer does depend upon the location.

RESEARCH METHODOLOGY

Dewey (1933) outlines a general archetype of enquiry that underpins the scientific approach, consisting of inductive discovery (induction) and deductive proof (deduction). Deduction begins with a universal view of a situation and works back to the particulars; in contrast, induction moves from scattered details to a connected view of a situation.

The deductive approach moves towards hypothesis testing, after which the principle is confirmed, refuted or modified. These hypotheses present an assertion about two or more concepts that attempts to explain the relationship between them. Concepts themselves are abstract ideas that form the building blocks of hypotheses and theories. The first stage, therefore, is the elaboration of a set of principles or allied ideas that are then tested through empirical observation or experimentation.

SAMPLE DESIGN

(Rubon & Babbie, 2002) suggest in their study that study population is the representative of aggregating elements; which the sample is actually selected for the study. (De Vos *et al.*, 2002) defines the population to be studied, as individuals who possess certain characteristics. Thus, the individual units selected, represent the population that generates the research problem and the final results will be generalized.

The following criteria were used to identify the population:

- The respondent must be of age 15 years or above,
- Who has been involved in either the purchasing process or consumption situation or both?
- Respondent is resident of the chosen geographical location
- Respondent is able to understand the questionnaire

A sample size of 400 was taken for the study, after the scrutiny 369 samples found to be adequate and complete to the extent of being included in the study. Out of the sample collected from both the diverse geographical locations, half of the sample belongs to rural area.

To begin with, often information gathered in the social sciences, marketing and business, relative to attitudes, emotions, opinions, personalities, and description's of people's environment involves the use of Likert-type scales. As individuals attempt to quantify constructs which are not directly measurable they often use multiple-item scales and summated ratings to quantify the construct of interest (Gliem & Gliem, 2003). (Nunnally & Bernstein, 1994), (McIver & Carmines, 1981) and (Spector, 1992) discuss the reasons for using multi-item measures instead of a

single item for measuring psychological attributes. An individual item cannot discriminate among fine degrees of an attribute.

Cronbach's alpha is a test reliability technique that requires only a single test administration to provide a unique estimate of the reliability for a given test. Cronbach's alpha is the average value of the reliability coefficients one would obtain for all possible combinations of items when split into two half-tests. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is actually no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale.

The construct is tested for reliability statistics using Cronbach's Alpha, the value reported is 0.86, which indicates that multi-item scale is not only reliable, but also internally consistent. It is important to know that while a high value for Cronbach's alpha indicates good internal consistency of the items in the scale, it does not mean that the scale is one-dimensional. Factor analysis is a method to determine the dimensionality of a scale.

The construct

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	369	100.0
	Excluded ^a	0	.0
	Total	369	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.860	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I can wait for a week or more to get better price/discount	10.1870	24.343	.676	.831

contd. table

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
2. Promotion offer is an excellent option to save money	9.8401	24.955	.612	.843
3. Price is more important than brand	9.7696	21.939	.720	.824
4. I can switch brand to get discount on price	9.9539	23.718	.659	.835
5. I prefer to buy on particular day / time to get the price discount	10.1978	26.175	.673	.835
6. I may pre-pone / post-pone purchase to receive the price discount	10.0244	27.095	.605	.846

Factor Analysis

Factor analysis is a method of data reduction. It does this by seeking underlying unobservable (latent) variables that are reflected in the observed variables (manifest variables) (Bruin, 2006).

In the descriptive statistics table in factor analysis, it shows the means of various items, standard deviation of the item responses and the number of responses considered for the computation. Since the determinant value in this table is .067, it depicts that items are not highly correlated to support multicollinearity, in factor analysis.

KMO and Bartlett's Test

(a) **Kaiser-Meyer-Olkin Measure of Sampling Adequacy** - This measure varies between 0 and 1, and values closer to 1 are better. A value of .6 is a suggested minimum. Whereas, the data set value is .834, which is absolutely adequate.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.834
Bartlett's Test of Sphericity	Approx. Chi-Square	985.848
	df	15
	Sig.	.000

(b) **Bartlett's Test of Sphericity** - This tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is matrix in which all of the diagonal elements are 1 and all off diagonal elements are 0. You want to reject this null hypothesis. However, as we can see that the Bartlett's test of sphericity

is significant. That is, its associated probability is less than 0.05. In fact, it is actually 0.000, i.e. the significance level is small enough to reject the null hypothesis. This means that correlation matrix is not an identity matrix.

Communalities

The next item from the output is a table of communalities which shows how much of the variance in the variables has been accounted for by the extracted factors. For instance over 60% of the variance in “Purchase Timing” is accounted for while 63% of the variance in “Price Preference” is accounted for.

Communalities

	<i>Initial</i>	<i>Extraction</i>
I can wait for a week or more to get better price/ discount	1.000	.622
Promotion offer is an excellent option to save money	1.000	.529
Price is more important than brand	1.000	.660
I can switch brand to get discount on price	1.000	.585
I prefer to buy on particular day / time to get the price discount	1.000	.632
I may pre-poner / post-poner purchase to receive the price discount	1.000	.547

Extraction Method: Principal Component Analysis.

Total Variance Explained

The next item shows all the factors extractable from the analysis along with their eigen values, the percent of variance attributable to each factor, and the cumulative variance of the factor and the previous factors. Notice that the first factor accounts for 46.367% of the variance, all the remaining factors are not significant.

Total Variance Explained

<i>Component</i>	<i>Initial Eigenvalues</i>			<i>Extraction Sums of Squared Loadings</i>		
	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>	<i>Total</i>	<i>% of Variance</i>	<i>Cumulative %</i>
1	3.574	59.571	59.571	3.574	59.571	59.571
2	.769	12.814	72.385			
3	.635	10.583	82.968			
4	.396	6.600	89.568			
5	.339	5.644	95.212			
6	.287	4.788	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix

The table below shows the loadings of the six variables on the one factor extracted. The higher the absolute value of the loading, the more the factor contributes to the

variable. The gap on the table represent loadings that are less than 0.5, this makes reading the table easier. We suppressed all loadings less than 0.5.

Component Matrix^a

	<i>Component</i>
	1
1. I can wait for a week or more to get better price/ discount	.788
2. Promotion offer is an excellent option to save money	.727
3. Price is more important than brand	.812
4. I can switch brand to get discount on price	.765
5. I prefer to buy on particular day / time to get the price discount	.795
6. I may pre-pone / post-pone purchase to receive the price discount	.739

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

The factor analysis is uni-component factor analysis with six variables. Since, just one component is extracted, therefore, this solution cannot be rotated.

The t-Test Analysis

The independent-samples t-test (or independent t-test, for short) compares the means between two unrelated groups on the same continuous, dependent variable. This t-test is designed to compare means of same variable between two groups. The Independent Samples *t* Test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. The Independent Samples *t* Test is a parametric test. The variables used in this test are known as Independent variable, or grouping variable. The Independent Samples *t* Test can only compare the means for two (and only two) groups. It cannot make comparisons among more than two groups.

Homogeneity of variances (i.e., variances approximately equal across groups)

When this assumption is violated and the sample sizes for each group differ, the *p* value is not trustworthy. However, the Independent Samples *t* Test output also includes an approximate *t* statistic that is not based on assuming equal population variances

Group Statistics

	<i>Location of Respondent</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
PS	Rural	184	2.7083	.94011	.06931
	Urban	185	1.2937	.20022	.01472

In group statistics, the first column gives categories of independent variable Location of Resident i.e. the rural and urban resident. N is the number of valid observations in each group, in the above table 184 observations are collected from rural India and remaining 185 are from urban India.

Third column, represent mean of the dependent variable for each of the level of independent variable. In this study mean value for rural population is 2.7083 and urban India is 1.2937.

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval of the Difference		
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Differ- ence	Lower	Upper
PS Equal variances assumed	202.025	.000	20.016	367	.000	1.41464	.07068	1.27566	1.55362
Equal variances not assumed			19.966	199.480	.000	1.41464	.07085	1.27493	1.55435

The second section **Independent Samples Test**, displays the results most relevant to the Independent Samples *t* Test. There are two parts that provide different pieces of information: (A) Levene's Test for Equality of Variances and (B) *t*-test for Equality of Means.

Levene's Test for Equality of of Variances: This section has the test results for Levene's Test. From left to right:

- *F* is the test statistic of Levene's test
- *Sig.* is the p-value corresponding to this test statistic.

The *p*-value of Levene's test in this study is ".000" (but should be read as $p < 0.001$ – i.e., *p* very small), so researcher can reject the null of Levene's test and conclude that the variance in price sensitivity of rural and urban consumer is significantly different.

The above result suggest us to *t*-Test for equality of means, in this test,

- *df* is the degrees of freedom

- *Sig (2-tailed)* is the p -value corresponding to the given test statistic and degrees of freedom
- *Mean Difference* is the difference between the sample means; it also corresponds to the numerator of the test statistic

The mean difference is calculated by subtracting the mean of the second group from the mean of the first group. The sign of the mean difference corresponds to the sign of the t value. The positive t value in this study indicates that the mean price sensitivity for the first group i.e. rural is significantly greater than the mean price sensitivity of the second group i.e. urban India.

The associated p -Value is 0.000, since, p -Value are never actually zero, SPSS prints .000, because the p -value is so small that it is hidden by rounding error.

CONCLUSION

Among the consumers belong to rural and urban centers ($N = 369$), there is a significant difference in the price sensitivity of the population ($PS_R - 2.7083$ & $PS_U - 1.2937$) and Standard Deviation ($SD_R - .94011$ & $SD_U - .20022$) and p - value $\geq .05$, therefore, we reject the null hypothesis that there is no difference in price sensitivity of the consumers representing rural and urban centers. Therefore, price sensitivity of urban consumer is different than the price sensitivity of the consumers from rural areas.

Marketing Implication of the study

We argued in this paper that price sensitivity of the consumer may be moderated by their location; we used an information framework to guide the design of price sensitivity experiment to test our hypothesis about the impact of location on consumer price sensitivity. Our empirical strongly suggest that location of the consumer moderates consumer price sensitivity.

From the perspective of pricing policy, marketers may wish to consider the likely implications of our findings for the intimate relationship between location of the consumer and their price sensitivity. Based on our results, the greater proportion of population in rural India has exhibited price sensitivity towards personal care category low involvement products. Clearly, the type of information produced by our research approach would make it possible to quantify gains and losses and permit managers to make pricing decisions that take into account the value of price to consumers.

Our study suggest that marketing manager should be zealous about maintaining pricing strategy that should strive to reflect consumers' higher utility, as well as lower price sensitivity. It will enable them to include all the aspects of

value proposition credibility and careful consideration of extension. We see many future price sensitivity research issues worthy of attention. For example, in this paper, we focused on low involvement product category and location factors that could affect the impact of price sensitivity. However, consumer characteristics also may determine the extent of this impact.

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