

Influence of Perceived Price Fairness on Buying Decision of Rural Consumer in India

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Abstract :

Recent changes in national and global business environment have forced companies to re-evaluate their pre-conceived notions about profit opportunities in serving the relatively poor rural consumer located in remote and dispersed rural areas. In present rural marketing environment rural consumer do not have problem of limited choice but his limited exposure with agencies located outside their environment makes him vulnerable for charging very high prices by the retailers. In this context perception of reliability of retailer about price fairness is very critical for winning trust of rural consumer. Study attempt to analyses influence of perceived price fairness on buying behavior of rural Consumer.

Findings of the study show that six variables such as age of the respondent, quality of service, location of shop, preacquaintance with the shop keeper, and payment on credit basis and availability of parking variables affect price fairness perception of rural consumer significantly. The facility to buy on credit is the only variable that negatively affects consumers' fairness perception with the specific rural retailer. The study results also suggest that increase in consumer expenditures is positively related with the positive price fairness perceptions. Study results show that except education level, all other socio-economic variables such as age of the respondent, gender, household income and marital status have statistically significant influence over the level of consumer expenditure. Three contextual variables such as location of the shop, the ability to pay on credit and the parking availability variables are found to exert statistically significant and positively influence on the level of consumer expenditures.

INTRODUCTION :

Recent changes in national and global business environment have forced companies to re-evaluate their pre-conceived notions about profit opportunities in serving the relatively poor rural consumer located in remote and dispersed rural areas. Now it is a well accepted fact that the bottom of the consumer pyramid highlights the way to commercial success

and societal improvement. In this context India's vast untapped rural market with 742 million prospective customer present a huge market growth potential for the companies, especially in a market landscape where competition is growing very fast.

However, extending the marketing activities in rural areas is not very easy as marketers are faced with entirely different set of business environment when marketing in rural areas as compared to urban areas. Though first movers in the rural market command consumer loyalty and retail shelf space but chances of failure of rural marketing strategy is also very high for these first movers. Discovering the distant market early with lowest probability of marketing failure is therefore critical. The marketers can not afford to wait, hoping to tap the potential at some future date. For late entrant, growing competition will make entry into rural markets very difficult. Marketing strategy formulators therefore needs better understanding of organized frame work that helps in developing better understanding of these markets.

In present rural marketing environment rural consumer do not have problem of limited choice but his limited exposure with agencies located outside their environment makes him vulnerable for charging very high prices by the retailers. In this context perception of reliability of retailer about price fairness is very critical for winning trust of rural consumer. Present paper therefore attempt to analyses influence of perceived price fairness on buying behavior of rural Consumer.

OBJECTIVES :

Study aims at following specific objectives -

1. To analyze the role of price fairness perceptions as a individuals' buying decision influencing factor.
2. To identify factors which influences price fairness perceptions.
3. To compare role of price fairness perceptions on individuals' buying decisions.

METHODOLOGY :

SAMPLING DESIGN AND DATA COLLECTION :

Multistage stratified random sampling technique has been used to collect primary data for this study. In the first phase, out of 29 States of India, State of U.P. has been selected purposively on the basis of highest concentration of rural population in the state. In the second phase, from 77 districts of the state 'Jalaun' district has been selected randomly. In the third stage, a sample of 12 village markets (Seengpura, Bhadwan, Sahav, Jaggammanpur, Rampura, Hadrukh, Madaripur, Gopalpura, Ait, Shankarpur, Ata, Saidnagar and Akodi) have been drawn from various regions of Jalaun district, selected in first stage. Finally a sample of 15 buyers at three different time periods (morning, noon and

afternoon) have been drawn on simple random basis from each village market selected in earlier stage. Primary and secondary data collection exercise was carried out during April, 2012 to March, 2013.

CONCEPTUAL FRAME WORK :

For studying impact of price fairness on buying decisions of rural consumer, allocation choice problem based analytical model (Irne and Anastasia, 2006) has been used. Fairness is very subjective concept and can vary from customer to customer. Therefore we need to define fairness before we can take up fairness as a determinant of buying decision. For the present study fairness is defined as 'price fairness' and as perceived by the consumer in a buying process. For the purpose of simplicity, consumers' perceptions of price fairness is treated as an observed outcome (Baumol, 1982).

In the study consumers' buying decision has been treated as the outcome of an expenditure allocation problem (McFadden 1999). The expenditure allocation problem considered here is that of a rural consumer having to decide how much commodity he has to buy at a given rural shop. In order to elaborate analytical model used in this study, let us consider a set of N rural consumers facing the choice of shopping from a set of M rural retailshops in the village market.

Decision problem faced by i th rural consumer ($i = 1, \dots, N$) choice of shopping from the j th rural retail shop ($j = 1, \dots, M$) is formulated as the buying choice outcome ' y_i ' of i th rural consumer's allocation problem. This outcome ' y_i ' may be presented in the following form.

$$Y_i = \beta' X + \delta EPF_i + \varepsilon_i \quad i = 1, \dots, N \quad \dots\dots\dots(1)$$

Where,

- * X is a vector containing contextual factors indicating the level of information that is available to a consumer i . In our case this vector refers to the characteristics of rural retail shop, and buyer specific characteristics.
- * PPF stands for consumers' perception of price fairness underlying their choice to buy a good from the j th rural shop.
- * ε_i is an error term.

However, defining a price fairness judgment indicates that an individual's perception of price fairness (PPF) is itself a function of a number of factors (Akerlof, 1982). Therefore, price fairness perceptions may be considered to depend upon number of contextual and individual specific factors (Eckel and Grossman, 1996, Rabin, 1993). That, in turn, indicates that the coefficient of the perceived price fairness variable in equation (1) does not actually

measure the effect of price fairness perceptions upon the level of consumer buying. Equation (2) explains price fairness perceptions to be a function of number of determinants as explained below.

$$PPF_i^* = \gamma' W_i + u_i \quad \dots\dots\dots(2)$$

where PPF stands for rural consumers' perceptions of price fairness, γ is a vector of contextual and individual specific characteristics indicating rural consumers level of information and their ability to process available information, and u is an error term.

In the case of fair/unfair judgments, as in the present study, equation (2) may be rewritten as:

$$PPF_i = 1 \text{ if } PPF_i^* > 0, \quad 0 \text{ otherwise} \quad \dots\dots\dots(3)$$

Coupled with the expenditures equation, we find that :

$$E[y_i | PPF_i = 1] = \beta' X_i + \delta + E[\varepsilon_i | PPF_i = 1] = \beta' X_i + \delta + \rho \sigma_\varepsilon \lambda(-\gamma' W_i) \quad \dots\dots\dots(4)$$

Equation (4) indicates that price fairness perceptions relate to a self-selection problem where certain values of the dependent variable y are observed for specific price fairness judgments. Thus, the rural consumers' allocation choice problem is expressed through this equation as "level of buying realized at the rural retail shop j given the price fairness evaluation of a transaction with rural retail shop j ."

Since, the perceived price fairness variable, PPF, takes up the form of a binary qualitative variable, fair/unfair, the appropriate empirical treatment effects model is one of a dummy variable that may take on the following form (Greene, 1997; Wooldridge, 2002) :

$$y_i = \beta' X_i + \delta PPF_i + \varepsilon_i \quad \dots\dots\dots(5)$$

$$PPF_i^* = \gamma' W_i + u_i \quad \dots\dots\dots(6)$$

$$PPF_i = 1 \text{ if } PPF_i^* > 0 \text{ and } PPF_i = 0 \text{ if } PPF_i^* \leq 0 \quad \dots\dots\dots(7)$$

where the dependent variable y denotes rural consumer buying expenditures realized at given rural retail shop. We may use a two stage least squares method of estimating equation (5) using as the instrumental variable for PPF the predicted probabilities from the probit

equation (7). This estimation technique provides consistent estimates of the associated parameters (Barnow, 1981).

Above approach provides us an analytical framework that can be used to empirically test the widely acknowledged relationship between price fairness perceptions and buying decision of rural consumer (Irne and Anastasia, 2006) in India.

PROFILE OF THE STUDY AREA :

India has a huge untapped rural market. According to a McKinsey survey, rural India will provide a market worth \$500-600 billion by 2020 (CII, 2006). It is precisely due to this reason that in recent years, Indian rural markets have assumed critical importance in overall growth of the economy. Rising purchasing power in rural areas is facilitating increased consumption of large quantity of industrial and urban manufactured products. Table 1 indicate various rural market potential parameters. These parameters indicate attractiveness of rural market to various companies.

Table 1
What makes Indian Rural Markets Attractive?

Sl. No.	Parameter	Size
1.	Customer base	742 million people
	Estimated annual size of the rural market	
2.	FMCG	Rs 65,0 Billion
3.	Durables	Rs 5,0 Billion
4.	Agri-inputs (incl. tractors)	Rs 45,0 Billion
5.	2 / 4 wheelers	Rs 8,0Billion
6.	Credit Cards issued in rural areas	41 million Kisan Credit Cards
7.	Cumulative credit	Rs 977 billion
8.	Rural HHs availing banking services	42 million
9.	Number of rural HH Investing in savings instruments	6.6 million

Source : Awasthi, 2007

DATA ANALYSIS :

The analytical model developed above has been used for analysing a random sample data set of 240 cross-sectional questionnaires. Personal interviews with rural

consumers were conducted at rural multi commodity shops. For the purpose of this study a wide range of information regarding consumers' perceptions over the attributes of rural shop (location of shop, size of shop, product varieties available in the shop, preacquaintance with the shopkeeper, availability of parking, payment on credit basis, etc.), their shopping pattern and their socio-economic profile (gender, age, educational status, marital status, income level, employment, etc.) have been collected.

Study used consumers' expenditures at a specific rural shop and their perceptions of price fairness underlying the transaction with that shop as two dependent variables.

Five point Likert type scale ranging from unfair to fair have been used to construct the perceived price fairness variable. Rural consumers in the study area were asked to indicate the level of price fairness that they would assign to the specific buying done by them.

Estimates of the system of equations (5) and (7) were obtained using two step procedure of estimation. First, a probit equation was estimated for the variable affecting the price fairness. The fitted values from this estimation were then included as an instrumental variable in the two stage least square estimation of equation (5).

The marginal effects analysis was carried out so as to measure the magnitude of the effect that the explanatory variables exercise upon the probability of consumers perceiving a transaction as price fair.

In the study, to check if the parameters associated with the explanatory variables are equal to zero, a joint X² test has been used. R² values have been used to obtain results of goodness of fit of the model.

RESULTS AND DISCUSSION :

Determinants of price fairness perception

Results of the study presented in table 2 indicate significant and r² values. These high values indicate a good fit of the model. Prediction accuracy of this model is found 68.65 percent.

Table 2
Estimated Model Results

Sl. No.	Variable	Coefficient Estimate	Asymptotic t-ratio	Marginal Effect	Asymptotic t-ratio
1.	Constant	-2.997	-3.109 **	-	-
2.	Age	0.487	2.007*	0.220	2.234
3.	Service	0.534	4.103**	0.209	4.112
4.	location of the shop	0.423	2.663*	0.172	2.621

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5.	Preacquaintance with the shopkeeper	0.485	3.925**	0.224	3.415
6.	Gifts	0.115	1.220		
7.	Variety	0.237	1.480		
8.	Payment on credit basis	-0.341	-2.511*	-0.425	-2.450
9.	Parking	0.560	2.663*	0.235	2.512
10.	Space	0.245	0.111		
Goodness-of-fit measures				Value	
Number of observations				402	
Log-likelihood				-242.30	
Restricted log-likelihood				-268.34	
X2(df)				111.53 (9)	
McFadden's p2				0.194	
Percentage of correct predictions				68.65	

Notes : *Significantly different from zero ($p < 0.05$); * *significantly different from zero ($p < 0.01$)

Results of the study reveal that among various socio economic variables which are assumed to influence price fairness perception of rural consumer, only one of the socio-economic variables, i.e., the age of the respondents, has emerged as statistically significant variable. This variable was carried forward in further analysis.

Results show that out of the nine explanatory variables, six variables such as age of the respondent, quality of service, location of shop, preacquaintance with the shop keeper, payment on credit basis and availability of parking affect perception of price fairness significantly. The facility to buy on credit emerged as only variable that negatively affects consumers' fairness perception with the specific rural retailer. Further probing on this finding revealed that rural consumer believe that when rural shop keeper allow them to buy commodities on credit, it is but natural that they will recover it by charging high unfair price.

Marginal effect of independent variables on fairness perception

In the study, effects of marginal increasing in one of the independent variables on the probability of price fairness perception of rural consumer have been estimated. The marginal effects analysis reveals extent of change in probability of fairness perception if the independent variable changes by a marginal amount from its sample mean. For dummy independent variables the marginal effects has been analyzed as discrete changes when the respective dummy takes its two different values, 0 and 1, respectively.

In the study, marginal effects are considered for only statistically significant variables. Results of the study indicate that variables such as the age of the respondent, quality of marketing service, preacquaintance with the shopkeeper and the parking availability near shop increase the probability that a consumer will view a specific transaction as fair by more than 21 percent. Study finding indicate that magnitude of the influence of location of the shop is smaller but significant as well. Location of shop increases the probability of price fairness, by 15.9 percent. The magnitude of influence of buying on credit was however; found decreasing on probability of fair evaluations since ability to pay on credit decreases the probability of evaluating the transaction as fair by 15.4 percent.

Results of the consumers' expenditures equation

Results of goodness-of-fit measures, measured through r^2 are presented in Table 3. Results indicate a satisfactory fit of the estimated model. The likelihood ratio test is also highly significant. The model accounts for 29.90 percent of the expenditures variance in the sample. Results of the study reveal that eight explanatory variables have significant impact on buying expenditure of rural consumer. The perception of fairness is found to be positively related with the level of expenditure.

Table 3

Two stage least squares estimated results of the consumers' expenditure equation

Sl. No.	Variable	Coefficient	Estimate	t-value
1.	Constant	2.576	1.958*	
2.	PPF	0.485	2.112*	
3.	Age	-0.159	-3.421* *	
4.	Income	0.223	2.215 *	
5.	Education	-0.0624	-0.475	
6.	Gender	0.339	3.540* *	
7.	Marital status	0.402	2.354*	
8.	Store type	0.192	2.113*	
9.	Gifts	0.096	1.221	
10.	Credit cards	0.252	2.457* *	
11.	Parking	0.832	5.223 * *	

Goodness-of-fit measures	Value
Number of observations	402
Log-likelihood	-473.11
Restricted log-likelihood	-612.30

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McFadden's p2	0.169
F [10, 391]	18.25
Adjusted R2	29.90

Notes : *Significantly different from zero ($p < 0.05$), **Significantly different from zero ($p < 0.01$)

Study results revealed that except education level, all other socio-economic variables such as age of the respondent, gender, household income and marital status have statistically significant influence over the level of consumer expenditure. Study finding also suggest that the level of consumer expenditures is negatively affected by the respondent's age. This could be attributed to the fact that in a typical rural culture in India, expenditure needs of the people declines with the age and there is tradition of passing on house hold responsibilities to his son once he gets married. In such situation all actual buying is done by him in consultation with his elder /father who retain responsibility of a family head. Three contextual variables such as location of the shop, the ability to pay on credit and the parking availability are found to exert statistically significant and positively influence on the level of consumer expenditures.

CONCLUSION :

Results show that six variables such as age of the respondent, quality of service, location of shop, preacquaintance with the shop keeper, and payment on credit basis and availability of parking variables affect price fairness perception of rural consumer significantly. The facility to buy on credit emerged as only variable that negatively affects consumers' fairness perception with the specific rural retailer. The marginal effects analysis results indicate that the age of the respondent, service quality, offers and the parking availability variables increase the probability that a consumer will view a specific transaction as fair. Study found that location of shop increases the probability of price fairness, by 15.9 percent. The findings of the study also suggest that increase in consumer expenditures is positively related with the positive price fairness perceptions. Study results show that except education level, all other socio-economic variables such as age of the respondent, gender, household income and marital status have statistically significant influence over the level of consumer expenditure. Three contextual variables such as location of the shop, the ability to pay on credit and the parking availability variables are found to exert statistically significant and positively influence on the level of consumer expenditures.

References :

Akerlof, G.A. 1982. 'Labor contracts as a partial gift exchange', Quarterly journal of Economics, Vol. 97, pp. 543-69.

- Awasthi Maya Kant. 2007. 'Surging Indian Rural Market' Talk delivered in North Eastern Hill University Tura , India
- Barnow, B., Cain, G. and Goldberger, A. 1981, 'Issues in the analysis of selectivity bias', in Stromsdorfer, E. and Farkas, G. (Eds), *Evaluation Studies Review Annual* Vol. 5, Sage, Beverly Hills, CA, p. Sage.
- Baumol, Wj. 1982. 'Applied fairness theory and rationing policy', *American Economic Review*, Vol. 72, pp. 639-51.
- Confederation of Indian Industry (CII) Report. 2006, CII , New Delhi
- Eckel, C.C. and Grossman, P.J. 1996, 'The relative price of fairness: gender differences in a punishment game', *Journal of Economic Behavior & Organization*, Vol. 30, pp. 143-58.
- Greene, W. 1997. *Econometric Analysis*, Prentice-Hall International, London.
- Irene D and Anastasia P. 2006. 'Consumers' expenditures and perceived price fairness', *International Journal of Social Economics*, Vol. 33 No. 11, 2006, pp. 766-780
- McFaddea, D. 1999, 'Rationality for economists?', *Journal if Risk and Uncertainly*. Vol. 19, pp 73-105.
- Rabin, M. 1993. 'Incorporating fairness into game theory and economics'. *American Economic Review*, Vol. 83, pp. 1281-302.
- Wooldridge, J.M. 2002. *Econometric Analysis of Cross Section and Panel Data*, The MIT Press, Cambridge, MA.