Customer Satisfaction towards Public Distribution System in India

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Abstract: PDS is considered as principal instrument in the hands of State Governments for providing safety net to the poor against the spiraling rise in prices of essential commodities. Public Distribution System (PDS) is a poverty alleviation programme and contributes towards the social welfare of the people. Essential commodities like rice, wheat, sugar and kerosene oil are supplied to the people under the PDS at reasonable prices. The present paper aims at identifying the factors, which affects customer satisfaction towards public distribution system in India. Gwalior city is selected for the study and sample sizes of 100 are taken for study. The variables chosen for the study are subjected to factor analysis and regression is applied to find out the impact of these factors on customer satisfaction.

Keywords: Public Distribution System (PDS), social welfare, Essential commodities, Essential commodities

INTRODUCTION

PDS is a system whereby accessibility of vital supplies is assured within easy reach of the consumers in every corner and bend of the country. This is a transaction system where food-grain, sugar, and other necessary items like kerosene oil and edible oil etc made available to the people of the State at reasonable price to meet their minimum needs. Regular and timely availability of supplies is assured through close monitoring system to make PDS an effective instrument against various forces in the open market and to keep under check the inflator's tendencies. Certain supply on fixed and reasonable prices also keeps in control the changeable trends of market due to vagaries of weather and subsequent changing prospects of crops. PDS serves as a steady stable check on market forces and work as an effective stabilizing factor. PDS also serves as an effective tool of social welfare and directly contributes to the development of rural population at large in particular the poorest of the poor who cannot afford to buy necessary and essential items from open market.

Variable of PDS

Some variable which affects PDS:

The independent variables are sex, age, educational status, marital status, exposure to mass media, and contact with change agents;

(1) **Membership with cooperatives**: - Age of membership, membership in cultural, social and political organizations, occupation of the respondents, purchasing behavior of the respondents, availability of Goods in time.

(2) **Age distribution:-** Age distribution is the important factor, which also decides the purchasing behavior of an individual and establishes the relationship with the market.

(3) **Sex-wise:-** Distribution is to identify the relative role of male and female in purchasing the commodities from the FPS.

(4) **Marital status:-** The size of the family decides the quantum of essential and nonessential commodities required for consumption. Based on the size of the family the entitlement is fixed and allotment of rice, kerosene, sugar and other controlled articles.

(5) **Educational Status-wise**:- Educational Status-wise distribution as a key social factor plays a dominant role in molding the behavior of the respondents.

(6) **Contacts with Change Agents: -** The Government Departments and Non-Governmental Organizations, as change agents, have relatively contributed for the development of the village economy.

(7) **Exposure to Mass Media: -** Mass media like Newspapers, Magazines, Radio and TV play a pre-dominant role in disseminating information to the mass. Exposure to mass media helps an individual to increase his level of awareness on the socio-economic life.

(8) **Age of Membership**: - The age of membership explains the relationship of the members with Cooperatives. Long duration of membership means better relationship with the Cooperatives. PACB played key role in

deciding the place for locating a FPS. They also help the salesman to manage the crowd during rice distribution. The respondents opined that this sort of relationship was high when there was democratic management in Cooperatives. In the FGD they said we established a Committee of Members headed by a member of Board of PACB as a supervisory committee of FPS at village level. The role of this committee was effective in running FPS till the tenure of the Board.

(9) **Membership in Cultural Social and Political Organizations: -**Membership of an individual with cultural, social and political organization enhances his level of awareness on the economy as a whole. Almost in all villages it was found that there was more than one association/organization attracting individuals for membership.

(10) **Occupation of the respondents:-** Occupation decides the income level of the individual and ultimately his purchasing behavior. As far as the occupation of the respondents is concerned, majority of the respondents in the weaker sections category were agricultural coolies, while majority of the respondents in the non-weaker section category were farmers.

(11) **Availability of Goods in time:-**India achieved self-sufficiency in food production, but that does not guarantee food security to the poor. A long-term policy on food security need not be over emphasized, as major portion of an individual income goes for purchasing food articles. Both the Centre and State Governments have been taking serious efforts in providing essential commodities in time to the customers.

REVIEW OF LITERATURE

Culati and Krishnan [1] undertook a major study of the Public Distribution System in India and came out with a proposal to maximize the benefit for the Economically Vulnerable Sections. According to them the Economically Vulnerable Sections consisted of the entire urban households and the non cultivating rural households, including the agricultural labourers. This group covered 53.6 per cent of the population. For ensuring the objective, it was that 50.6 per cent of the net cereal output of the country has to bechannelised through the Public Distribution System.

Gupta A[2] studied the effectiveness of PDS. He examined the price stability as achieved through the operation of PDS using econometric models. He discovered that the quantities required to meet the need was much higher than what could be generated internally through procurement only. The additional requirements were several times of the total food grains distributed through the PDS.

Narwal S [3]: revealed in her study "Management of Public Distribution System" analyses the policy framework and several managerial aspects of the PDS in Haryana. Researcher evaluated the working of the system from the feedback of consumers and beneficiaries, in term of their satisfaction level.

Lassar W *et al.*[4] examined the effects of service quality on customer satisfaction in private banking by using two well known measures, the SERQUAL and the technical/functional quality. They compared and contrasted empirically the SERQUAL and the technical or functional quality model. They tried to compare the various dimensions of the two service quality models and their effects on satisfaction. In their study they mentioned customer satisfaction is a multi dimensional construct, and that these dimension will be differentially impacted by the various components of service quality.

Singh J *et al.* [5] investigated the determinants of customer satisfaction of Indian banks. The results of the study revealed that responsiveness, tangibles, services innovation, reliability and accessibility, assurance, pricing and other facilities, problem solving capability and convenient working hours are the main determinants of customer satisfaction.

Shiralshetti A.S *et al.* [6] made an attempt to ascertain the level of satisfaction of customers as regards banking services in Belgaum District in Karnataka. The satisfaction level of the customers has been measured and analysed the varieties of new services, which influence the satisfaction level of the customers.

Kumar R [7] said that the findings of his study coincide with the observations of earlier researchers in the area of customer satisfaction. In his study the author has identified the customer satisfaction variables and its impact on customer satisfaction and established the relationship between customer relationship management and customer satisfaction.

Objectives of the study
The main objectives of the research are:-
1. To study the present position of Public Distribution system in Gwalior.
2. To analysis the factors of Customer Satisfaction of Public Distribution System.
3. To offer suggestions to improve the working of PDS.

Hypothesis of the study

H01: There is no significant impact of price of commodities on Customer Satisfaction.

H02: There is no significant impact of quality of commodities on Customer Satisfaction.

Sampling Design:

Sampling Technique

Random sampling technique is used to identify the respondents of the study.

Population

The population for the study included customers who use to buy food from public distribution system.

Sample Size

Sample size was 100 respondents of selected blocks of Gwalior.

Tools for Data analysis

Collected data analyzed with the help of different statistical calculations using SPSS software. Statistical package for social science (SPSS) version 20.0 for windows seven used for data analysis and hypotheses testing.

Analysis and Findings

The table 1 gives the profile of respondents taken for the study. 60% of the respondents were male and 40% were female respondents. Around 35% of the respondents belong to the age group between 20 years to 30 years.

Table 1: profile of respondents taken for the study

	Description	Frequency	Percentage
Gender	Male	60	60
	Female	40	40
	Total	100	100
Age Group	Less than 20 years	20	20
	20-30 years	35	35
	30-40 years	30	30
	More than 40 years	15	15
	Total	100	100
Qualification	Intermediate	45	45
	Graduation	35	35
	Post graduation	15	15
	Higher degree	5	5
	Total	200	100

Table 2: Reliability Statistics

Cronbach's Alpha	N of Items
.783	12

Reliability test was conducted on all the 12 variables considered for the study. The Cronbach's Alpha was found to be 0.783, indicating that the variables taken for the study, are reliable. Validity of the variables was tested by conducting bivariate correlation analysis among the variables. The Coefficients of correlation for all combinations were more than 0.5 indicating that the variables were suitable for the Study.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.689
Bartlett's Test of Sphericity	Approx. Chi-Square	561.012
	df	66
	Sig.	.000

The Kaiser- Meyer- Olkin Measure of Sampling Adequacy Value was .689 indicating that the sample was adequate to consider the data as normally distributed. The Bartlett's Test of Sphericity tested through Chi-Square value 561.012 significant at 0% level of significance indicating that the data has low sphericity and is therefore suitable for factor analysis.

Table 4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.355	36.295	36.295	4.355	36.295	36.295	3.815	31.792	31.792
2	1.884	15.698	51.993	1.884	15.698	51.993	2.424	20.201	51.993
3	1.398	11.649	63.642						
4	1.112	9.270	72.912						
5	.879	7.322	80.234						
6	.595	4.960	85.194						
7	.457	3.804	88.998						
8	.439	3.661	92.660						
9	.289	2.406	95.066						
10	.266	2.219	97.285						
11	.200	1.669	98.955						
12	.125	1.045	100.000						
Extraction Method: Principal Component Analysis.									

Table 5: Rotated Component Matrix[a]

	Component	
	1	2
quality of commodities is good	.674	
Range and processibility of product	.712	
quantity of food-grains	.696	
packing of commodities	.537	
quota is sufficient for family satisfied with adequacy of food grain food grain has having diversity	.676 .816 .734	
The price I paid was fair		.531
I received what I paid for		.612
satisfied with different prices of goods quality is according to price we are paying more prices		. 521 .653 .569
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

Naming of Factors

Factor 1: Quality of commodities
The first factor was defined by quality. The factor was composed of two items and accounted for 36.295 per cent of the variance.

Factor 2: Price
Factor price comprised five items and accounted for 15.698 percent of variance.

Regression analysis between price and quality on customer satisfaction

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.722[a]	.521	.511	.763	1.895
a. Predictors: (Constant), price, Quality of the product					
b. Dependent Variable: Customer Satisfaction					

Table 7: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.337	2	30.669	52.696	.000[a]
	Residual	56.453	97	.582		
	Total	117.790	99			
a. Predictors: (Constant), price, Quality of the product						
b. Dependent Variable: Customer Satisfaction						

Table 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.659	.326		2.024	.046
	Price	.456	.072	.477	6.335	.000
	Quality of the product	.410	.078	.397	5.273	.000
a. Dependent Variable: Customer Satisfaction						

The equation for regression analysis from table can summarized as below

$Y = a + b x + error$

Customer satisfaction = .659 + .477 (Price) + .397 (Quality of the product)

Value of F is 52.696, which are significant at 0% level, and value of t is 2.024, which are also significant at 0% level. Durbin Watson value is 1.895, which indicates good model fit for regression. R square value is .529, which indicates 52.9 % of variance in customer satisfaction is explained by these factors.

Thus Hypothesis H1 and H2 are rejected.

CONCLUSION

It is concluded from the study that quality of commodities and price of the product are the two important factors, which affects customer satisfaction towards public distribution system in Gwalior city. The result of regression analysis shows that these factors are having significant impact on customer satisfaction. The ministry of food supplies should focus on these factors to improve the PDS.

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