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A STUDY ON FACTORS THAT DRIVE SATISFACTION AMONG ORGANIZATIONAL USERS OF WATER TREATMENT PLANT

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ABSTRACT

In business to business market scenario few researches have been conducted on consumer behaviour and satisfaction. Furthermore such researches have not been conducted for Water Treatment Plant in Pune City. The researcher out of interest and curiosity decided to research on satisfaction level among water treatment plant users in Pune City. The data of users of Water Treatment Plants is collected from District Industrial Centre and Maharashtra State Board of Pollution Control, since every Water treatment Plant has to get registered with the later. From this data it was understood that in Pune 144 organizations from different industries are using water treatment plants. To make findings generalizable almost 44% of these organizations were contacted for their responses. Responses are taken through structured questionnaire. The questionnaire includes 20 close ended questions. The organizations were selected based on researcher's convenience and availability of respondents from organizations. SPSS 13.0 Version is used for data analysis. ANOVA and Pearson's Correlation statistical techniques are used for testing hypotheses. The results showed that the professionals those engaged in purchase activities differ in their means of satisfaction levels for different aspects which drive satisfaction. Results also confirmed that Satisfaction and Manufacturers of Water Treatment Plant are significantly related. And finally it was found that satisfaction and loyalty towards the manufacturer (brand) of water treatment plant are significantly correlated. Last section of this research gives suggestions to marketers and directions for future research works as well.

Keywords: Water Treatment Plant, Pune City, Business to business

INTRODUCTION

Customer is the center of any business. Therefore all the businesses have to focus on customer requirements and try to fulfill most of them. If businesses could fulfill the requirements then customer become satisfied customer. Such satisfied customers are assets for business and these customers may even spread good word of mouth for that particular business house. Therefore satisfying customers is of utmost importance. Companies are usually engaging themselves in gauging satisfaction for their products and services and get feedbacks from customers so as to improve themselves to satisfy customers. If number of satisfied customer increases, number of complaints will fall down. So complaint handling cost will also reduce significantly. Reduced cost will increase profit subsequently. Therefore understanding the factors which lead to satisfaction and optimizing them is very important from businesses' point of view. However understanding those factors in nosiness to business (B2B) situations is complex compared to business to customer (B2C) situations. The number of research conducted for retail products in business to customer (B2C) settings is comparatively high than those

for business to business (B2B) environment. The methodology used for B2C cannot be adapted for B2B environment as in B2B customer behaviour is much different than B2C. In B2B situations the buyers are either influencing personalities from organizations or group of such people. People who influence the buying decision may not be from same professional background in all the organizations. For instant in some organizations these personnel who take decisions related to purchase may belong to different departments such as Purchase, Finance, Stores, engineering, maintenance etc. This research assumes that different personnel from different professional background give different degree of importance to different aspect related to product and sales services. Therefore marketers will have to understand the factors which are important to different professional personnel. The findings will help marketers to better deal with different professionals in the organizations and improve sales of the water treatment plant.

OBJECTIVE

This research attempts to identify the factors which are more important for companies with respect to usage of Water Treatment Plant (WTP). The objectives of this research are

1. To investigate if professionals from different background differ in their satisfaction level with respect to various factors affecting satisfaction for water treatment plant.
2. To investigate correlation between satisfaction and brand loyalty for Water Treatment plant
3. To study if there is any difference in satisfaction level among different brand (manufacturer) water treatment plant users.

LITERATURE REVIEW

Gupta (2006) defined consumer behaviour "as a study of a complex of those factors which resulted in particular buying decisions of consumers based on rationality, emotions or compulsion. According to him, a study of consumer behaviour is likely to reveal whether target consumers of the enterprise emphasize more on the price of the product or its quality. On this basis, suitable pricing strategies and programmes aimed at upgrading the quality of organizations products to suit the needs, habits and behaviour of consumer will be put in place.

Kotler and Armstrong (2001), Consumer buying behaviour refers to the buying behaviour of the individuals and households who buy goods and services for personal consumption. Consumers around the world are different in various factors such as age, income, education level and preferences which may affect the way they avail of goods and services. This behaviour then impacts how products and services are presented to the different consumer markets. There are many components which influence consumer behaviour namely; cultural, social, personal, and psychological.

Assael (1984) identified two major influences in the industrial consumer buying behaviour namely. 1. Industrial buyer influence such as consumer demographic lifestyles, attitudes, needs and personality. 2. Environmental influences or factors external: This relates to individuals like family, culture and reference group. By implication one can include the state of the nation economy. He concluded that a consumer could be influenced by three major factors. Sociological, psychological and environmental factors and they combine to determine the activities of individuals and groups in obtaining and consuming goods and services. The sequence of decision processes that follow this act is also an essential component of buying behaviour.

A study by Voss and Parasuraman (2003) suggests that the purchase preference is primarily determined by price than quality during pre-purchase evaluation. Given explicit quality information, price had no effect on pre-purchase or post-consumption quality perceptions. Instead, post consumption quality evaluations had a favourable impact on price evaluations.

Boulding et al (1993) stated another perspective of customer satisfaction, which deals with the difference between transaction specific and cumulative customer satisfaction. Customer satisfaction is viewed as a post-purchase evaluative judgment of a specific purchase occasion between expectation and actual performance according to transaction-specific perspective. Cumulative customer

satisfaction is an overall evaluation based on the total purchase and consumption experience with goods or service over time. In other words it is the customer's experience with the seller over the purchase. Cumulative satisfaction is a more fundamental indicator of the firm's past, current and future performance and its cumulative satisfaction that motivates a firm's investment in customer satisfaction.

Zineldin, (2006) developed a triangle strategy between quality, CRM, and customer loyalty which is leading to companies competitiveness. This research was designed to measure satisfaction and loyalty of the customers based on two main conditions where the customer database information and strategy of CRM should be structured well, and the system should be enough capacity for data producing to accurate analysis. According to the findings of the research, any changes of the quality of the services or productions or any other segments in a firm over time could be used as an indicator to find the level of customer loyalty through a well-structured CRM strategy. Also finding shows that, if the indicators of interaction, infrastructure, and atmosphere would be linked to the object and process quality it helps to the researchers to find what changes are required in CRM strategy to improve customer satisfaction and loyalty.

Hirsch (2011) investigated the concept of customer satisfaction in a high-technology B2B context. A survey was sent out to industrial customers of a manufacturer of high-technology products. 205 responses were gathered from all levels of the customer organizations. The study investigates the effect of the role as decision-maker on overall customer satisfaction. Product performance for customer's personnel, customer's customer and the quality of the technical service are introduced as dimensions to measure in a study on industrial customer satisfaction. Disconfirmation of expectation, a well-known framework for measuring customer satisfaction in consumer context is tested in a B2B context. Another common framework for measuring customer satisfaction, perceived performance, is also tested. Finally, the effect of customer satisfaction on loyalty is investigated. Findings confirmed that technical service is the most important dimension in the model, and product performance for personnel and for customer's customer both have a positive effect on overall customer satisfaction. Disconfirmation of expectations and perceived performance have different influence depending on which dimension of the product offer they are measuring. Customer satisfaction is found to be an important antecedent of loyalty even in a B2B context.

Coviello and Brodie (2001) investigated 279 firms and discovered that the overall marketing practices of the two types of industries were similar. However, they differed in the fact that those in consumer industries are more transactional, i.e. focusing on single transactions, while those serving industrial customers were more relational and long-term minded in their marketing approach. The satisfaction and dissatisfaction of the consumer is more than a response to the genuine performance nature of an item or benefit and that the earlier desires emphatically impact what we think quality is.

Homburg and Rudolph (2001) propose a model where satisfaction of industrial customers is measured by seven different dimensions such as satisfaction with product, salespeople, product-related information, order handling, technical services, internal personnel and complaint handling. The model was tested and supported in different industries consisting of suppliers of goods sold to industrial customers.

HYPOTHESES

1. Professionals from different background differ in their satisfaction level with respect to different factors affecting the satisfaction.
2. Customer Satisfaction for Water Treatment Plant is significantly correlated with Manufacturer (brand) loyalty for that Water Treatment plant.
3. Satisfaction level differs among different brands (manufacturers) of water treatment plant users.

METHODOLOGY

In Pune City (Urban Area) total 144 organisations are using water treatment plant as per Maharashtra State Board of Pollution Control. It was thought to collect responses from at least 50% of these organizations for this research. A questionnaire was designed in two steps. At first feedbacks from executives from different organisations are taken so as to understand major factors affecting satisfaction which are considered by them about water treatment plants. Ion second step rough draft of questionnaire is prepared based on feedbacks. This draft was again shown to other executives to check their views on the aspects covered in the draft. Based on their views some additions are done in the questionnaire and a final draft of questionnaire is prepared.

The questionnaire includes 3 sections. The first section is to collect demographic profile of the organizations and individual respondents. Second sections includes questionnaire to record satisfaction level and includes various aspects as- product information, commercial aspects, confirmation of the expectations. The third section is about loyalty towards particular Water Treatment Plant manufacturer (brand).

Total 74 executives from different organizations were contacted based on researcher convenience for their appointments. However due to their busy schedules 11 executives could not give their time for giving interviews. Therefore total 63 responses are collected from those who gave their appointments. ANOVA, regression analysis techniques are used to analyse data.

RESULTS AND DISCUSSION

Reliability of the Instrument

To make use of the customised instrument for collecting responses, the instrument must be reliable. Therefore before applying statistical tests on the data, it is good idea to check reliability of the instrument and find that the items of the instrument measure exactly the same thing for which it is designed.

Table no. 1 Reliability Statistics

Cronbach's Alpha	N of Items
.821	20

Table no. 4 shows the result of reliability statistic. The Cronbach's alpha value greater than .7 usually is considered good and indicates that the instrument is reliable. Therefore we can say that the instrument used for collecting responses for investigating the drivers of satisfaction among organisational users is reliable.

Demographic Characteristics of the respondents

Table No.2 Professional Background of respondent

		Frequency	**%**
Valid	Management, Purchase, Finance Dept.	32	50.8
	Engineering, Manufacturing, Maintenance Dept.	31	49.2
	Total	63	100.0

From above table it is observed that almost equal number of respondents belong to both the professional areas. 32 respondents from the organisations belong to Management, or Purchase/ Finance Department.

Table No.3 Manufacturer (Brand) of WTP

		Frequency	%
Valid	ABC	14	22.2
	DEF	36	57.1
	GHI	13	20.6
	Total	63	100.0

The above table gives details of the Manufacturer (brand) of water treatment plants in the respondents' organisations. However the names of the manufacturers (brands) cannot be disclosed, therefore the original names are replaced by fictitious brands. It can be observed that 'DEF' has highest number of users among the respondents.

Descriptive Statistics

Table No.4 Descriptive Statistics

Aspects	Items of the scale	N	Mean	Std. Deviation
Reliability	Our water treatment Plant is reliable	63	3.22	0.79
	Manufacturer provided timely delivery.	63	3.19	0.82
Product Related Information	This manufacturer offers a large breadth of products to choose from	63	3.25	0.95
	It provides well documented technical specifications for its products.	63	3.11	1.11
Commercial Aspects	Current WTP offers a good return policy	63	3.33	1.09
	Manufacturer of WTP has good warranty coverage on its products	63	3.32	0.95
	This WTP is competitively priced	63	3.25	1.02
	The manufacturer of WTP offers a good credit policy	63	3.08	1.07
Fulfilment of Expectations	The amount of Water recovery from WTP is as per promised limits	63	**3.35**	0.85
	Problems/ issues w.r.t. to WTP is addressed by the after sales service team within promised timeframe	63	3.13	0.92
	The maintenance cost of the WTP is reasonable	63	3.13	0.96
	Quality of Output of Water from WTP is as expected	63	**2.98**	1.05
Mean	(overall Satisfaction)	63	3.20	

Loyalty	We intend to buy other products of the brand if we require so.	63	3.52	1.09
	We will recommend this water treatment plant to other organization?	63	3.51	0.95
	We will not be looking for other brands in this category of products; this brand is good enough.	63	3.44	1.06
	If need arises we will buy water treatment plant from the same manufacturer of the plant (brand)	63	3.43	1.15
	We are satisfied with the overall quality of current Water Treatment Plant	63	3.38	0.94
	If this brand would increase their prices we would still consider the brand for our next purchase.	63	3.27	1.11

the responses for satisfaction for water treatment plant were collected on 5 point Likert's scale. The overall mean for all aspects of satisfaction is 3.20. This suggests that the satisfaction level among organisational users is moderately high. Among four aspects of satisfaction 'fulfilment of expectation' has got highest mean for one of the items. The statement which received highest mean in 'fulfilment of expectation' is "The amount of Water recovery from WTP is as per promised limits" and the mean score is 3.35. However the lowest mean score 2.98 shows that organisational respondents are not satisfied with the quality of the water they get from water treatment plant.

HYPOTHESES TESTING

H1: Professionals from different background differ in their satisfaction level with respect to different factors affecting the satisfaction.

To test this hypothesis ANOVA test is run in SPSS. The result of ANOVA is shown in Table no .5. The significant value (p) is the indicative value in this table. If $p<.05$ then it indicates that the F test value is greater than the critical value. The p values for two aspects namely 'Reliability Aspect' (p=.269; F=1.246) and 'Expectation Fulfillment' (p=.294; F= 1.121) are not less than .05. Therefore respondents with different professional background do not differ in their means of satisfaction for these two aspects. However, the p values for 'Product Related Information' (p=.000; F=93.134) and 'Commercial Aspects' (p=.000; F= 73.555) are less than .05 suggesting that the professional differ in their means of satisfaction for these two satisfaction aspects. Therefore it can be said that the hypothesis 'H1: Professionals from different background differ in their satisfaction level with respect to different factors affecting the satisfaction' is partially supported.

Table No. 5. ANOVA- Professional Background & Satisfaction with respect to different aspects

		Sum of Squares	df	Mean Square	F	Sig.
Reliability Aspect	Between Groups	.473	1	.473	1.246	.269
	Within Groups	23.177	61	.380		
	Total	23.651	62			
Product Related	Between Groups	32.629	1	32.629	93.134	**.000**

Information Aspect						
	Within Groups	21.371	61	.350		
	Total	54.000	62			
Commercial Aspect	Between Groups	34.483	1	34.483	73.555	**.000**
	Within Groups	28.597	61	.469		
	Total	63.079	62			
Expectation confirmation	Between Groups	.608	1	.608	1.121	.294
	Within Groups	33.106	61	.543		
	Total	33.714	62			

H2: Customer Satisfaction for Water Treatment Plant is significantly correlated with Manufacturer (brand) loyalty for that Water Treatment plant.

To test this hypothesis Pearson's correlation test is used. The result is shown in Table No. 6. The result confirms that 'overall satisfaction' and 'brand loyalty' are significantly correlated ($p<.05$). The value of Pearson's correlation (.442) suggests that the correlation is moderately strong and as satisfaction increases loyalty towards that particular brand increases as well.

Table No.6 Correlations between Overall satisfaction and loyalty

		Overall Satisfaction	Loyalty
Overall Satisfaction	Pearson Correlation	1	.442(**)
	Sig. (2-tailed)		**.000**
	N	63	63
Loyalty	Pearson Correlation	.442(**)	1
	Sig. (2-tailed)	.000	
	N	63	63

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

From this result we accept our hypothesis 'H2: Customer Satisfaction for Water Treatment Plant is significantly correlated with Manufacturer (brand) loyalty for that Water Treatment plant.'

H3: Satisfaction level differs among different brands (manufacturers) of water treatment plant users.

ANOVA is used to test hypothesis H3. The result of ANOVA (Satisfaction level and manufacturer (brand) of the WTP) is reproduced in Table no. 7

Table no. 7 ANOVA- Overall Satisfaction and Manufacturers (brands) of WTP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.808	2	2.404	12.531	**.000**

Within Groups	11.510	60	.192		
Total	16.317	62			

The result shows that the p value is less than .05 (p=.000). Therefore it can be stated that organizational users of different brand of water treatment plants differ in their means of satisfaction level.

RESULTS AND DISCUSSION

The results show that users of water treatment plant are moderately satisfied with the plants. However some of the aspects stills calls for attention. Most of the respondents reported that they are little disappointed with the quality of the water output of water treatment plant. This calls for attention from manufacturers of the Water Treatment Plants. Attention should be paid towards the quality of output water and it has to conform to the specifications promised at the time of installation of the plant.

From hypotheses testing it was found that Professionals from different background differ in their means of satisfaction level with respect to different factors affecting the satisfaction. Among four aspects only two aspects; 'Product Related Information' and 'Commercial Aspects' are the aspects for which means of satisfaction of different professionals differ significantly. For rest of the aspects this relationship does not hold true. Arefi M., Aminin A. M. Fallahi K., (2010) in their work found that people from Management purchase or finance area may give higher importance to commercial aspects and those from engineering, manufacturing or maintenance background give higher importance to product information while evaluating the water treatment plant and its performance. Probably because of this respondents from different background differ in their means of satisfaction. Therefore marketers may need to design different approaches to make presentations about their products as per the client's professional background. If the client is from management/ purchase of finance area, the marketers can emphasis on the commercial aspects like credit period, discounts, returns on investment etc. while if the client is maintenance engineer, engineers or manufacturing professional then emphasis should be given on product related information as specifications of products, features of products, different varieties available etc. to increase chances that client buys the product.

Correlation statistics showed that Overall Satisfaction and loyalty for manufacturer of water treatment plant are significantly positively correlated. This suggests that a satisfied customer becomes loyal and do not change his/ her choice for product. Therefore marketers of water treatment plant should improve and maintain satisfaction levels so as to make customers loyal to their industrial products. This will help increase in business in long terms.

Means of satisfaction levels for users of different water treatment plant differs significantly. That means satisfaction level changes as per different manufacturer of water treatment plant. This suggests that some manufacturers are doing well than others in satisfying customers. Though this research gives coverage to different drivers of the satisfaction they are not enough as every construct contains only few items which may not give full coverage to the entire construct. The future studies may investigate exactly where the other manufacturers are lagging behind with respect to satisfaction level of the customers.

Future studies should conduct longitudinal research on satisfaction level investigation in B2B environment. Apart from four aspects which are thought to drive satisfaction of water treatment plant users in this research some other aspects may also drive satisfaction which future studies may tap. The findings of this research are restricted to only water treatment plant and in Pune City only therefore the findings may not be generalized for the industry.

REFERENCES

1. Arefi, M., Amini, A. M., & Fallahi, K. (2010). Drivers of Customer Satisfaction in an Industrial Company from Marketing Aspect. World Academy of Science, Engineering and Technology,

International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering, 4(6), 1377-1383.

2. Assael, H. (1984), Consumer Behavior and Market Action, Boston, Massachusetts: Kent Publishing Company
3. Boulding, William; Karla, Ajay; Staelin, R; Zeithaml, V.A, A Dynamic Model of Service Quality; From Expectations to Behavioural intentions, Journal of Marketing Research, 1993, Vol. 30, pp 7-27
4. Coviello, N. E., & Brodie, R. J. (2001). Contemporary marketing practices of consumer and business-to-business firms: how different are they?. *Journal of Business & Industrial Marketing*, *16*(5), 382-400.
5. Gupta, S., & Pirsch, J. (2006). The company-cause-customer fit decision in cause-related marketing. *Journal of Consumer Marketing*, *23*(6), 314-326.
6. Hirsch, E. W. A. (2011). *Customer Satisfaction in a High-technology Business-to-Business Context* (Master's thesis)
7. Homburg, C., & Rudolph, B. (2001). Customer satisfaction in industrial markets: dimensional and multiple role issues. *Journal of Business Research*, *52*(1), 15-33.
8. Kotler, P. (2001). Gary Armstrong. *Princípios de Marketing*, *7*.
9. Zineldin M., (2006). The royalty of loyalty: CRM, quality and retention. Journal of Consumer Marketing, Vol. 23 Iss: 7, pp.430 – 437