STUDY OF INDUSTRIAL CUSTOMERS' EXPECTATIONS AND SATISFACTION TOWARDS IDENTIFICATION PRODUCTS

Mr. Mulchandji Sen, Mr.Rizwan Rana and Mr. Jitesh Parmar

ABSTRACT

The success of firm revolves around marketing mix (4 P's i.e. Product, Price, Place and Promotion) irrespective of nature of products i.e. consumer or industrial products. The core focus here is product in industrial marketing context. Product is a mean to ensure meeting customers' needs. The basic difference between consumer products and industrial product is that consumer products are mostly used for direct consumption whereas industrial products are used for incorporation, consumption and / or resale. In today's cut throat competition merely meeting customer needs will not work rather it must focus on customer satisfaction and even additionally on customer delight. For that it becomes important to know what customers actually expect from a firm. Study undertaken focuses on measuring customers' expectations and satisfaction towards identification products. Identification Products are those products which are used to identify other products. The research design here is exploratory, descriptive & cross sectional study.

Keywords: *Consumer Products, Industrial Products, Identification Products, Customers' Expectations and Customer Satisfaction.*

I. INTRODUCTION

Every business today tries for customer satisfaction, delight and customer loyalty. The toolkit for the marketer on which they can compete is 4 P's or 4 pillars of Marketing (Product, Price, Place and Promotion). The first important (all equally important) P of marketing mix is product. The basic implication of product indicates that it should focus on customer needs and provide solution to those needs. Customers' expectations determine customers' experiences, satisfaction and loyalty towards firm and hence it gives indications of future intentions for purchase (Chezy Ofir Itamar Simonson, 2005). At the same time identifying customer expectations is critical for marketers as failing to meet

those expectations can lead to dissatisfaction (Bettman, Luce, and Payne 1998; Schwarz and Bohner 2001). Research found that measuring customer satisfaction has more positive impact on purchase behaviour and loyalty (Dholakia and Morwitz 2002). Stating expectations prior to consumption make customers more accessible during their consumption experiences (Dholakia and Morwitz 2002; Fitzsimons and Williams 2000; Morwitz and Fitzsimons 2004). Customer satisfaction can be considered as a source of future profit. Customer satisfaction research helps in understanding customer attitude and perception (Kassarjian, 1997; Kolbe and Burnett, 1991). Firms selling industrial goods often carry large and complex number of product lines (Robert R., Edward B., Betty R., 2007) and hence it becomes very important to decide which product/s industrial customer will prefer, what is their expectation and whether they are satisfied with it or not? Research also indicates that the industrial behaviour has shifted from product to service driven perspective (Anneli S, Annica W. G., 2005). Expectation and study of industrial behaviour is more complicated than the household / consumer behaviour (Yoram W., Frederick EXPECTATION W.Jr., 2002). The nature and characteristics of industrial products leads to challenge and complexity for measuring industrial behaviour.

II. IDENTIFICATION PRODUCTS

Identification products refer to those products which are used by other products' manufacturer to identify and to display important information on their products. For example, aluminium name plates are used by electric equipment manufacturer like refrigerator, iron, heater etc. There are various types of identification products like aluminium anodize plates, brass name plates, dial & scales, emblem, pressure sensitive stickers, monograms, facial plastic labels, stickers, sign board etc. Identification products fall under the category of industrial products as they are being used by other business for incorporating into their products. In today's cut throat competitive era brand name becomes an important aspect of business. Identification products play a vital role in branding as they are used to identify products. Logo and nameplates are important to create awareness and reflect the true identity of the product in the minds of customers and hence leads to strong brand building. The market for identification products is covering various states of India.

III. RATIONALE OF THE STUDY

The rationale for the study undertaken here is to study the basic P of marketing - Identification Product which is tangible in nature and may or may not include service. Company was interested in knowing about what their customers expect from the company? Are customers satisfied with identification products? As such

all of the 4 Ps of marketing mix are equally important for a marketer or academician but looking to the company priority and objective to undertake research within limited period of time, the study undertaken focuses only on the first P of marketing i.e. Identification Product.

IV. RESEARCH METHODOLOGY

"Research methodology is the systematic design, collection, analysis and reporting of data and finding, relevant to appraisal specific personnel situation facing the company." Research methodology describes the research procedure. It is covering the following points:

A. Research design.
B. Data collection method.
C. Sample Design.

A. Research Design:

"It is an overall framework of project/ study that indicates what information to be collected from which sources and by which procedures." It is also the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance.

a) Exploratory Stage:

An exploratory research focuses on the discovery of ideas and is generally based on secondary data. It is like investigation in to the market. The first stage in research design is exploration of current situation. In this stage clarification of the specific problem is identified. Exploratory stage gives the answer of question that how we came to know about problem statement? Initially the topic was new to the researchers, so we went for exploratory study to know about the appropriate methodology of research study.

b)Descriptive studies:

Descriptive studies are undertaken when the researcher wants to know the characteristics of certain groups such as age, gender, educational level, occupation, income, etc. In this project, research design carried out was descriptive in nature. The study was aimed at describing the existing phenomenon. The descriptive study here is to answer what, where and why types of questions pertaining to the undertaken study i.e. an attempt to describe the phenomena.

c*) Cross sectional Studies:*

Cross sectional studies are those studies which are undertaken at a particular point of time. Here the study undertaken is carried out at particular point of time i.e. 25th May to 17th July 2009. If the same study is carried out in phases or repetitively it will be considered as longitudinal studies.

B. Problem Statement:

What are the expectations and what is the satisfaction level of customers towards identification products?

C. Research Objectives:

a) Primary Objective:

- To study the expectations and satisfaction of customers towards identification products.

b) Secondary Objective:

- To know which industrial product is purchased mostly by the customers

D. Data Collections:

The data collected for the study mainly involves following two data sources;

a) Primary Data:

Primary data were collected directly from the respondents who were the users of identification products. The data were collected using a structured questionnaire to solve the current problem.

b) Secondary Data:

Secondary data were collected from various sources like books, internet, annual reports of the firm and journals.

E. Research Approach:

Survey method was adopted to collect the primary data. This survey included face-to-face interview with purchase manager of company and / or owner of the small business units.

a) Research Instrument:

The most effective research instrument for data collection is questionnaire. A questionnaire consists of set of question presented to respondent to answer. Marketing research distinguishes between open ended and close ended questions specifying the possible answer and respondent make choice among them. Open

ended question allow respondent to answer in his/her own words. Here in this study both open ended and close ended questions are used.

F. Sample Design:

The sampling method is non probability – Judgemental sampling.

a) Sample Size:

The sample size for the study undertaken is 144 users of identification products.

G. Statistical Software & Tools Used:

For data entry and analysis purpose MS office's Excel is used. Statistical software like SPSS 15.0 (Statistical Packages for Social Sciences) and Minitab are used for data entry and data analysis purpose.

a) Statistical Tests Used:

Statistical tests including Multiple Response Analysis, One sample t-test, paired sample t-test and Reliability test were used for data analysis and generalization purpose.

V. DATA ANALYSIS

a) Reliability Test:

Reliability Analysis address the issues of whether this instrument will produce the same result each time, it is administered to the person in the same setting. Here the value for Cronbach's Alpha is 0.709, almost 0.7. According to thumb rule of Alpha, here instrument reliability is good.

b) Multiple Response Analysis (Refer Table 1):

Multiple Response Analysis command is used to analyse multiple responses given by the respondents for the product that they use. This is because one customer may use more than one product. Table 1 shows the multiple frequency distributions of various products being used by the respondents.

c) Paired Sample t- Test (Refer Table 2 and 3):

Null Hypothesis (H0): There is no significant difference between the mean of customer expectation and customer satisfaction of product dimensions.

Alternative Hypothesis (H1): There is significant difference between the mean of customer expectation and customer satisfaction of product dimensions.

Significance level: Here test of hypothesis is at 95% confidence level i.e. the chance of occurring type 1 error is 5%.

Paired sample t-test is used here to examine the difference in means of the dependent sample.
Table 2 the Paired Sample statistics indicates the summary measures (Mean, Standard Deviation, Standard Error of Mean and N – Sample size) of selected variables. For example the mean value for expectation of quality of material is 4.47 and mean value for satisfaction regarding quality of material is 4.17.

Table 3 indicates difference between expectation and satisfaction for various product attributes. As highlighted for pair 1 the difference between expectations of quality of material and satisfaction regarding quality of material is 0.300. The table generated the value of t statistics of 3.000 with associated significance value 0.003 which is less than 0.05. Therefore we reject the null hypothesis and say that there is significant difference between expectations of quality of material and satisfaction regarding quality of material. Positive t-value indicates that expectation is higher than the satisfaction. Also from table it is clear that Negative t-value for colour shade and safety indicates that satisfaction is higher than expectation & positive t-value for quality of material, product design, appearance and after sales service indicates that expectation for these parameters is higher than satisfaction regarding the same.

d) Users of Presale Service (Refer Chart I and Table 5, 6):
Chart 1 shows the graphical representation of users of presale services i.e. 41 % are the users of presale service while rest 59 % are not.

Table 4 indicates that out of 41 % users of presale services. 53.5 % uses Sample services while 46.5 % uses Design services. It is to be noted that none of the respondents uses new product development idea services.

e) One Sample t –Test:
Null Hypotheses (Ho): There is no significant difference between the calculated sample mean and hypothesized population mean (4.00). In other words, it means that we hypothesized that respondents are satisfied with presale service.

$$H_o: \bar{x} = \mu = 4$$

Alternative Hypothesis (H1): There is significant difference between the calculated sample mean and hypothesized population mean (4.00). In other

words, it means that we hypothesized that respondents are not satisfied with presale service.

$$\underline{H_1: x \neq \mu \neq 4}$$

Significance level: Here test of hypothesis is at 95% confidence level i.e. the chance of occurring type 1 error is 5%.

Here sig. value for Pre Sale Service is *0.225* which is greater than *0.05,* so we fail to reject the Null Hypothesis (Ho). It means that there is no significance difference between the calculated sample mean and hypothesized population mean (4.00).This indicates that respondents are satisfied with the Pre Sale service. Also positive t value indicates that satisfaction level is above the level we have hypothesized. Here in this case below 4.15.

VI. FINDINGS

- From Multiple Response Analysis, it is found that 27.1 % respondents are using Aluminium Anodized Plates, 20.8 % respondents uses S.S. Name Plates, 16.7 % uses Pressure Sensitive Stickers, 13.2 % uses Brass Name Plates & 22.2 % uses other identification products like dials, panels, badges, token & Instrumentation and data plates.
- From paired sample t-test it is found that the null hypothesis is rejected for the pairs (Pair 1 & Pair 2) of expectation and satisfaction towards quality of material and expectation and satisfaction towards product design i.e. there is significant difference between expectation (4.47) and satisfaction (4.17) towards quality of material and expectation (4.37) and satisfaction (4.06) towards product design. While for rest of the pairs (Pairs 3, 4, 5 & 6) we fail to reject null hypothesis. Positive t value for pair 1 (Quality of material), pair 2 (Product Design) , pair 5(Appearance) & pair 6 (After Sales Service) indicates that expectation level is more than the satisfaction level while negative value of t for pair 3 (Colour Shading) & 4 (Safety) indicates that satisfaction level is more than the expectation level.
- From Frequency command it is found that 41% respondents were using Pre Sales Service while rest 59% respondents were not using that service.
- Out of 41% respondents those who are using pre sale services 53.5% respondents were using Sample Service while 46.5% respondents were using Design service. At this point it is also found that none of the respondents were using new product development service.

- From one sample t-test it is found that there is no significant difference between hypothesized mean (4.00) and calculated mean, i.e. respondents are satisfied with Pre sale service.
- From Reliability test, Cronbach's Alpha value is 0.709 which indicates that the reliability of the instrument is good.

VII. IMPLICATIONS FROM FINDINGS

As per the findings more customers are using aluminium anodized plates and s. s. name plates. That's why company should focus more on them, at the same time it is also necessary to identify the reasons why some products like monogram are not so popular in the market and overcome those limitations. Expectation level & Satisfaction level for quality of material and product design differs significantly so it is very important for the firm to match with customer expectation for those attributes. It is also recommended to focus on increasing satisfaction level for appearance and after sales service regarding the identification product. Satisfaction level for colour shading and safety is above expectation level so company should continue with this and even can think of customer delight and loyalty on these attributes. It is found that 59 % respondents are not using pre sale service. It is necessary for the firm to identify the reasons why they are not using it and can take steps accordingly. Pre sale service like new product development is not at used by the respondents so fine tune the new product development and strategies related to it and communicate it to target audience effectively. Those who are using pre sale service, from one sample t-test it is found that respondents are satisfied with pre sale service. Reliability test value indicates that the instrument reliability is good to use in future under same setting by the same researcher.

VIII. DIRECTION FOR FUTURE RESEARCH

From this study expectation and satisfaction regarding identification products is measured. That is one of the 4 Ps of marketing mix. Other Ps are not included in this study. So for those who want to carry out the research in same field then they can go for measuring expectation and satisfaction towards Price, Place & Promotion in industrial marketing context.

Further from this study it is concluded that some identification products are most widely used by the customers while others are not. So further study can be conducted towards identifying limitations of other products and by implementing strategy firm can overcome those limitation.

Another study can be conducted towards identifying reasons why most of customers are not using pre sale service.

IX. CONCLUSION

From this study it is concluded that most widely used identification product is aluminium anodised name plates. Regarding expectation and satisfaction, the focus to match expectation for quality of material, Product design, Appearance & after sales service is necessary. For Colour shading and safety company can continue with the same or can do even better. Customers are satisfied with after sales service.

REFERENCES

Anneli S, Annica W. G., (2005). Industrial buying behavior in the purchasing of maintenance, repair, and operation services: case studies from the Scandinavian pulp and paper industry. *University essay from Luleå tekniska universitet.*

Bettman, J., Mary F., Luce and John P. (1998), "Constructive Consumer Choice Processes," *Journal of Consumer Research*, 25 (December), 187-217.

Chezy, Itamar S. (2005). The Effect of Stating Expectations on Customer Satisfaction and Shopping Experience. *Stanford GSB Research Paper Series* No. 1881.

Chezy O., Itamar S., Song-Oh Yoon. (2007). "Customer Compliance with Presumed Market Research Goals: Motivational Drivers of Negative Service Evaluations," *GSB Research Paper* 1962

Cooper D.R. & Schindler P.S.,(2003). "Business Research Methods" Eight edition, New York., Tata McGraw – Hill Publishing Company Ltd.

Dholakia, Utpal M. and Vicki G. (2002). The scope and persistence of mere-measurement effects: Evidence from a field study of customer satisfaction measurement. *Journal of Consumer Research*. 29 (2), 159-167.

Fitzsimons, Gavan J., J Wesley H., Patti W., Joseph W. Alba, Tanya L., Joel H., Frank R., Menon G., Raghubir P., J. Edward Russo, Baba S., Nader T. Tavassoli, (2002), "Non-Conscious Influences on Consumer Choice," *Marketing Letters*, 13 (3), 269-279.

Kassarjian, H. H. (1997). "Content Analysis in Consumer Research". *Journal of Consumer Research,* 4(June), 8-18.

Kolbe. R. H and Burnett, M.S. (1991). "Content Analysis Research: An Examination of Applications and Directives for Improving Research Reliability and Objectivity*". Journal of Consumer Research*, 18(September), 244-250.

Nargundkar R., (2004). "Marketing Research" Second edition, New York., Tata McGraw – Hill Publishing Company Ltd

Philip K., Kevin Lane K., Abraham K., Mithileswar Jha., (2007)." Marketing Management: A South Asian Perspective". India. Pearson Education

Robert R., Edward B., Betty R., (2007). Industrial Marketing: Analysis, Planning and Control (2nd Edition).U.S.A: Prentice hall Inc.

Schwarz, N., & Bohner, G. (2001). The construction of attitudes. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook of social psychology*, Vol. 1: Intraindividual processes (pp. 436-457). Oxford, UK: Blackwell.

Yoram W., Frederick E. W. Jr. (2002, April). On the study of industrial buying behavior: Current practices and future trends. Industrial Marketing Management (4). 411-416.

Table 1 (Frequencies)

Identification Products	Responses (User of Identification Products)	
	N	Percent
Aluminium Anadoized Plates	39	27.1%
Brass N P	19	13.2%
S.S N P	30	20.8%
Pressure S S	24	16.7%
Other	32	22.2%
Total	144	100.0%

a Dichotomy group tabulated at value 1.

Table 2 (Paired Samples Statistics, n=100)

		Mean	Std. Deviation	Std. Error Mean
Pair 1	EXPECTATION Quality of Material	4.47	.658	.066
	SATISFACTION Quality of Material	4.17	.779	.078
Pair 2	EXPECTATION Product Design	4.37	.597	.060
	SATISFACTION Product Design	4.06	.600	.060
Pair 3	EXPECTATION Colour Shading	4.03	.611	.061
	SATISFCATION Colour Shading	4.10	.718	.072
Pair 4	EXPECTATION Safety	4.08	.614	.061
	SATISFCATION Safety	4.09	.740	.074
Pair 5	EXPECTATION Appearance	4.10	.503	.050
	SATISFACTION Appearance	4.08	.646	.065
Pair 6	EXPECTATION After Sales Services	4.06	.694	.069
	SATISFACTION After Sales Service	3.90	.745	.075

Table 3 (Paired Samples Test, df=99)

PAIR	Paired Differences					t	Sig. (2-tailed)
	Mean	S.D	Std. Error Mean	95% Confidence Interval of the Difference			
EXPECTATION Quality of Material SATISFACTION Quality of Material	.300	1.000	.100	.102	.498	3.000	.003
EXPECTATION Product Design SATISFACTION Product Design	.310	.873	.087	.137	.483	3.552	.001
EXPECTATION Colour Shading SATISFCATION Colour Shading	-.070	.714	.071	-.212	.072	-.980	.329
EXPECTATION Safety SATISFCATION Safety	-.010	.980	.098	-.204	.184	-.102	.919
EXPECTATION Appearance SATISFACTION Appearance	.020	.738	.074	-.126	.166	.271	.787

EXPECTATION After Sales Services SATISFACTION After Sales Service	.160	.992	.099	-.037	.357	1.613	.110

Chart 1(Presale Service Users vs. Non-users)

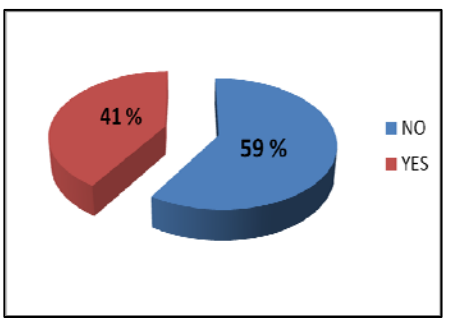

Table 4 (Pre Sale service type's Frequencies)

		Responses		Percent of Cases
		N	Percent	N
Presale	Sample	23	53.5%	56.1%
	Design	20	46.5%	48.8%
Total		43	100.0%	104.9%

a. Dichotomy group tabulated at value 1.

Table 5 (One-Sample Statistics)

	N	Mean	Std. Deviation	Std. Error Mean
Pre Sale Service	40	4.15	.770	.122

Table 6 (One-Sample Test)

	Test Value = 4

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
	Lower	Upper			Lower	Upper
Pre Sale Service	1.233	39	.225	.150	-.10	.40

Mr. Mulchandji Sen is faculty in Marketing area at Shrimad Rajchandra Institute of Management and Computer Application,Tarsadi since last 3 years. He is also Training and Placement Officer of the Institute. He contributed research papers at many conferences of National Level.

Mr. Rizwan Rana is alumni of Shrimad Rajchandra Institute of Management and Computer Application,Tarsadi. He is presently working with Neev Advertising Agency, Surat on the position of Marketing Manager.

Mr. Jitesh Parmar has done his Electrical Engineering from the prestigious Sardar Vallabhbhai National Institute of Technology, Surat. Subsequently, he did MBA (Marketing) and Post Graduate Diploma in Research Methodology Course from VNSGU, Surat. He has seven years of Post Graduate teaching experience. He is serving Shrimad Rajchandra Institute of Management and Computer Application, Tarsadi since its inception. He has attended many programmes for his academic development across different states of India. He has contributed total nine research papers in repute journals including NSB Management Review. One of his paper won the second prize at "National Conference on Marketing of Financial Services", Pune.