Chapter 5

RESEARCH METHODOLOGY

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RESEARCH METHODOLOGY

5.1 Statement of Research Problem

One of the prominent applications of internet is E-Commerce – the business through computer network. The growth and penetration level of E-Commerce is very low in India when compare to other developing nations in the world, where the Indian share is just 1.26% of world E-Commerce trade. The primary investigation revealed that there are any quality issues in E-Commerce applications as well as there are some problems in the implementation of E-Commerce practices. The study is focused on applications of Total Quality Management (TQM) to address various critical quality issues of E-Commerce hampering the growth of the sector. The TQM approach has to be thoroughly tested for all forms of E-Commerce.

5.2 Objectives

1. To study the lower penetration of E-Commerce
2. To study various forms of E-Commerce and related quality issues.
3. To study the characteristics of TQM as a solution and resolve the quality issues of E-Commerce.
5.3 Hypothesis

One of the most important motives of this study is to evaluate the critical elements in formulating long term E-Commerce strategies like customer expectations of quality, the problems during transactions and the risk involved. The study is also an attempt to find the problems of companies providing products and services as well as the importance given to employees through the involvement in the E-Commerce improvement process by considering them as internal customers of the organization. This is one of the effort made to cover all aspects of E-Commerce and socio-economic sections of the society. Following are the main and the specific hypothesis of the study.

5.3.1 Main Hypothesis

The companies that are doing business through E-Commerce have not been successful in developing long term E-Commerce strategies.

5.3.2 Specific Hypothesis

1. E-Commerce penetration levels are lower due to lack of customer centric approach.
2. E-Commerce penetration levels are lower due to lack of consideration of employee as the internal customer.
3. All forms of E-Commerce are having diversified quality issues.
4. TQM is the method to resolve the quality issues of all E-Commerce forms.
5.4 Methodology

As the study deals with factors like customer expectations about the quality involved in E-Commerce activities as well as the problems faced by the companies at the time of providing products and services, the research is based on direct personal investigation and online reply by the respondents. For this purpose two specific research instruments ‘Questionnaire and Interview Guide’ are used. The study is survey in nature with Qualitative and Quantitative approach. As a tool the study has used Questionnaire at large and Interview Guide to a small extent to collect more in-depth information. In all 240 people were selected for each product across all socio-economic strata as the sample of the study.

Research Design: Survey

Research Instrument

Pre-tested structured questionnaire with both open-ended and close-ended questions and in-depth interviews with for customers, managers and employees involved in E-Commerce activities.

Sample Unit

Residents of India in the age group of 16 – 60 years who are the managers and employees of E-Commerce companies or customers of the products of last five years are selected. This period is selected as maximum online products are being available to the customers in the last years five years.
Sample Techniques

Simple stratified random sampling and interview techniques are used for the study. In present study researcher has used analysis of the primary and secondary data. The research survey is limited to the E-Commerce activities of customers. Around 30 customers of every type of E-Commerce, 30 employees of Business to Employee E-Commerce as well as managers of every type of E-Commerce are selected using random sample technique. There are so many Indian E-Commerce companies as well as the international brands are available for E-Commerce transactions. While selecting the companies and the customers ‘Lottery Method’ was adopted. In this study sample statistical techniques will be used to ascertain desired results by way of data analysis.

Research Area

E-Commerce companies are located in Mumbai, Pune, Delhi and Bangalore. The western line of Mumbai the area like Andheri, Boriwali, Bandra are located in the south-east of the state. There are so many Indian E-Commerce companies as well as the international brands are available for E-Commerce transactions. So many private companies like Flipkart.com as well as government companies like irctc.co.in etc are studied. In this study sample statistical techniques are used to ascertain desired results by way of data analysis. The companies are selected from various segments based on types of online business activities and customers or employees attached to it.

Research Design

As the study deals with factors like E-Commerce types, quality issues and problem areas, the research is based on direct personal investigation on these parameters. For these purpose two specific research instruments ‘Questionnaire and Interview Guide’ are used. The study is a survey in nature with both Qualitative and Quantitative approach. As a tool the study has used Questionnaire at a large and Interview Guide at a small extent to collect more in-depth information about the quality issues of E-Commerce.
5.4.1 Questionnaire

For the present study the questionnaires is the main base for the research. It has been designed for the purpose of obtaining the data with wider coverage. Both the open-ended and closed-ended questions are framed based on the nature of information required. The general questions on customer online buying behavior are included for further information to get more understanding of the problems to the companies providing online products and services as well as necessary for testing the hypothesis. The same questionnaire format is used for all three types – Customer, Employee (internal customer) and Manager. Based on 5 types of E-Commerce, total 8 questionnaire are formed – B2C Customer, B2C Manager, B2B, C2C, B2E Employee, B2E Manager, C2B Customer and C2B Manager.

5.4.1.1 There are 8 types of questionnaire which actually distributed in two segments or views:

1. Customer View
2. Manager View

5.4.1.1 Customer View

Questionnaire is classified in two categories

5.4.1.1.1 Classification Data
5.4.1.1.2 Questionnaire Data

5.4.1.1.1 Classification Data

It consists of 7 fields which include general preliminaries such as name, sex, age, department, designation, qualification and annual income.
5.4.1.1.2 Questionnaire Data

The questionnaire data has around 45 to 49 fact finding questions based on type and its requirements.

The employees of the organization are also considered as the internal customers of the organization and separate questionnaire is formed for employees of E-Commerce companies.

The initial 8 questions deal with the frequency of internet usage and general interest of online activities.

The questions 9 to 32 deal with the customer satisfaction and dissatisfaction of online transactions and their expectations with respect to various quality issues.

The questions 33 to 49 cover the aspect of perceived quality and the expected solutions to the quality issues of online transactions.

5.4.1.2 Manager View

Questionnaire is classified in two categories
5.4.1.2.1 Classification Data
5.4.1.2.2 Questionnaire Data

5.4.1.2.1 Classification Data

It consists of 7 fields which include general preliminaries such as name, sex, age, department, designation, qualification and annual income.
5.4.1.2.2 Questionnaire Data

The questionnaire data has around 35 to 45 facts finding questions based on type and its requirements. The initial 5 questions deal with the frequency of internet usage and general interest of online activities.

The questions 6 to 28 deal with the opinion of manager and the higher authorities who take care of customer satisfaction and dissatisfaction of online transactions and their expectations with respect to various quality issues.

The questions 29 to 45 cover the aspect of perceived quality and the expected solutions to the quality issues of online transactions.

5.4.2 Interview Guide

This research tool is used mainly for customer, manager and employee involved in online transaction activities to extract all relevant and latest information. This helps the researcher to customize the questions more open-ended. It facilitates to explore all information pertaining to customers and the company’s online transaction quality issues under study. The guidelines for the interview guide are given in the appendix.
5.5 Data Collection

To study and evaluate strategic elements to find the solutions to quality issues in online transaction activities of customer, manager and employee, it needs deep insight of root cause of the quality issues. In customer segment, purchase decisions are mainly based on lack of faith in customer due to security, privacy, navigation, complicated purchase procedure, cyber laws and so many quality expectations which become hurdle to increase the number of customers in E-Commerce activities. The manager segment is based on lack of understanding of customer traditional buying behavior and customer centric approach which reduces faith in customer mind. The employee segment focuses on the understanding about the employee as the internal customer of the company.

To study the behavioral aspects of different income groups in logical and consistent manner, it has been felt necessary to approach a cross section of customers belonging to different strata of society, Managers and employees belonging to different strata of companies. For this purpose a random sample of 240 persons forming a cross section of people belonging to different sex, age, department, designation, qualification and annual income are considered.

To collect the necessary data in accordance with the topic research and for the purpose of testing relevant hypothesis 8 questionnaires have been formulated which includes aptly worded questions with proper relevance and emphasis on the data desired for the purpose of investigation.

Further, in order to gain in-depth knowledge of present study, researcher has used Interview Guide for customer, manager and employee.
The questionnaire is broadly categorized into two divisions:

5.5.1 Classification Data
5.5.2 Questionnaire Data

5.5.1 Classification Data

The classification data pertains to details spread over around 8 questions. These questions have a direct bearing on the respondent. As the profile of the respondents has an influence on his online transactional behavior as well as his behavior, it has been felt necessary to collect directly details of respondents pertaining to sex, age, department, designation, qualification and annual income. The relevant chart pertaining to the data obtained with reference to the 8 classification factors have been provided for the purpose of effective visual presentation of sample distribution.
5.5.1.1 B2C Customers

**Gender**
- Male: 59%
- Female: 41%

**Age**
- Below 25 yrs: 13%
- 26 to 30 yrs: 16%
- 31 to 35 yrs: 10%
- 36 to 40 yrs: 12%
- Above 45 yrs: 22%

**Education**
- Matriculate: 18%
- Higher Sec.: 9%
- Graduate: 27%
- Post Graduate: 46%

**Designation**
- House Wife: 22%
- Students: 15%
- Teachers: 20%
- Managers: 13%
- Govt. Emp.: 19%
- Company Emp.: 11%
5.5.1.2  B2C Managers

**Gender**
- Male: 26%
- Female: 74%

**Age**
- Below 35 Yrs: 43%
- 36 to 45 Yrs: 35%
- 46 to 55 Yrs: 13%
- Above 56 Yrs: 9%

**Education**
- MBA: 14%
- ME: 12%
- BE: 24%
- MSc: 28%
- CA: 18%
- MCom: 4%

**Designation**
- Marketing: 15%
- Govt. Org.: 19%
- HR: 12%
- Finance: 15%
- IT: 15%
- Logistics & SCM: 10%
5.5.1.3 B2B

**Gender**
- Male: 68%
- Female: 32%

**Age**
- Below 35 Yrs: 7%
- 36 to 45 Yrs: 15%
- 46 to 55 Yrs: 43%
- Above 55 Yrs: 35%

**Education**
- MBA: 28%
- ME: 26%
- BE: 21%
- MSc: 19%
- CA: 14%
- MS: 9%

**Designation**
- Marketing: 10%
- HR: 19%
- Finance: 15%
- IT: 12%
- Logistics & SCM: 8%
- Govt. Org.: 15%
- Operations: 21%
5.5.1.4 C2C

- **Gender**
  - Male: 42%
  - Female: 58%

- **Age**
  - Below 25 yrs: 23%
  - 26 to 30 yrs: 12%
  - 31 to 35 yrs: 10%
  - 36 to 40 yrs: 13%
  - 41 to 45 yrs: 16%
  - Above 45 yrs: 26%

- **Education**
  - Matriculate: 50%
  - Higher Sec: 4%
  - Graduate: 20%
  - Post Graduate: 46%

- **Designation**
  - House Wife: 22%
  - Teachers: 15%
  - Managers: 19%
  - Govt. Emp.: 13%
  - Company Emp.: 11%
5.5.1.5 C2B Customers

**Gender**
- Male: 41%
- Female: 59%

**Age**
- Below 25 yrs: 12%
- 26 to 30 yrs: 13%
- 31 to 35 yrs: 19%
- 36 to 40 yrs: 19%
- 41 to 45 yrs: 19%
- Above 45 yrs: 27%

**Education**
- Matriculate: 46%
- Higher Sec.: 9%
- Graduate: 27%
- Post Graduate: 18%

**Designation**
- House Wife: 12%
- Students: 10%
- Teachers: 13%
- Managers: 19%
- Govt. Emp.: 19%
- Company Emp.: 27%
5.5.1.6 C2B Managers

**Gender**
- Male: 54%
- Female: 46%

**Age**
- Below 35 Yrs: 43%
- 36 to 45 Yrs: 35%
- 46 to 55 Yrs: 16%
- Above 55 Yrs: 6%

**Education**
- MBA: 22%
- ME: 18%
- BE: 15%
- MSc: 11%
- CA: 10%
- MS: 10%

**Designation**
- Marketing: 21%
- Govt. Org.: 19%
- HR: 15%
- Finance: 15%
- IT: 15%
- Logistics & SCM: 15%
5.5.1.7  B2E Employee

Gender
- Male: 59%
- Female: 41%

Age
- Below 25 yrs: 27%
- 26 to 30 yrs: 22%
- 31 to 35 yrs: 16%
- 36 to 40 yrs: 13%
- 41 to 45 yrs: 10%
- Above 45 yrs: 12%

Education
- Matriculate: 18%
- Higher Sec.: 9%
- Graduate: 46%
- Post Graduate: 27%

Designation
- Housewife: 22%
- Teachers: 15%
- Managers: 13%
- Govt. Emp.: 11%
- Company Emp.: 19%
5.5.1.8 B2E Managers

Gender
- Male: 63%
- Female: 37%

Age
- Below 35 Yrs: 41%
- 36 to 45 Yrs: 35%
- 46 to 55 Yrs: 17%
- Above 56 Yrs: 7%

Education
- MBA: 28%
- ME: 14%
- BE: 20%
- MSc: 18%
- CA: 12%
- MS: 8%

Designation
- Marketing: 10%
- Govt. Org.: 21%
- HR: 19%
- Finance: 19%
- IT: 15%
- Logistics & SCM: 15%
- Operations: 15%
5.5.2 Questionnaire Data

The second part of the questionnaire relates to the actual data provided by the respondents on different parameters of E-Commerce activities.

These details of data have been obtained through questions 9 to 32. The various aspects studied with reference to these questions belong to awareness, primary and secondary association, perceived quality and loyalty. From the sample of 240 respondents in each product, it has been felt necessary to select a stratified random sample giving equal weightage to all income strata of society. The main justification for the selection of such a stratified sample lies in the fact that the statistical application could be effectively used for obtaining results through the process of quantification of respondents on the basis of rating methodology.

5.6 Rating Methodology

The sample size of 240 for each product falls under the category of a large sample in the statistical sense. Hence T-test probably the most commonly used Statistical Data Analysis tool for hypothesis testing has been used for drawing authentic and valid findings.