A STUDY ON TECHNOLOGY EFFECTIVENESS ON ONLINE SHOPPING IN INDIA

By

SINDHU D

Roll No. 1110MBA1124

Reg. No. 68311200434

A PROJECT REPORT

Submitted to the

FACULTY OF MANAGEMENT SCIENCES

in partial fulfillment for the award of the degree

of

MASTER OF BUSINESS ADMINSTRATION

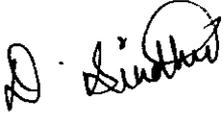**CENTRE FOR DISTANCE EDUCATION**
ANNA UNIVERSITY CHENNAI
CHENNAI: 600 025

SEPTEMBER – 2013

BONAFIDE CERTIFICATE

Certified that the project report entitled "**A STUDY ON TECHNOLOGY EFFECTIVENESS ON ONLINE SHOPPING IN INDIA**" is the bonafide work of Mr. / Ms.**SINDHU D**who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

Signature of Guide

Name   : SINDHU D

Name   : Mr. R.VINAYAGA SUNDARAM

Roll No. : 1110MBA1124

Designation: Associate Professor

Reg. No.: 68311200434

Address   : Kumaraguru College of Technology,

Chinnavedampatti Post,

Coimbatore - 641 049
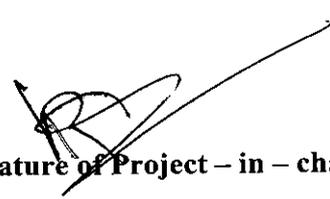
Signature of Project – in – charge

Name   : Dr.V.R.NEDUNCHEZHIAN

Designation: Professor,

KCT Business School,

Coimbatore.

Certificate of Viva-voce-Examination

This is to certify that Thiru/Ms./Tmt. **SINDHU D.** (Roll No. **1110MBA1124**;

Register No. **(68311200434)** has been subjected to Viva-voce-Examination on

.07/09/2013..(Date) at ....9..AM.....(Time) at the Study centre**Kumaraguru College of**

Technology, Chinnavedampatti Post, Coimbatore - 641 049.
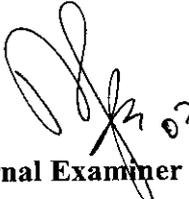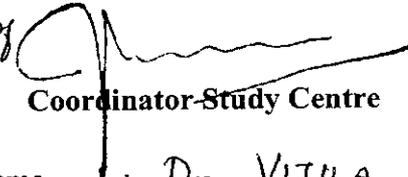
Internal Examiner

Name: Mr. A. SENTHIL KUMAR

Designation: Assistant Professor (Senior grade)

Address: KCT Business School,
Kumaraguru College of
Technology,
Coimbatore -49.

Date: 07/09/2013

External Examiner

Name: Dr. RAJ KUMAR N.

Designation: Dean

Address: Centre for Research,
Sri Ramakrishna Engineering College,
Coimbatore -22

Coordinator-Study Centre

Name : Dr. VIJILA KENNEDY

Designation: Director

Address : KCT Business School,
Kumaraguru College of Technology,
Coimbatore -641 049.

iii

ACKNOWLEDGEMENT

This project in itself is an acknowledgement to the inspiration, drive and valuable guidance contributed to it by many individuals. This project would never have been the light of day without the help and guidance that have been received.

I take this opportunity to express our sincere thanks to The Director, Centre for Distance Education, Anna University, Chennai for providing me the opportunity to pursue my course.

I extend our profound gratitude to The Principal, Kumaraguru College of Technology, Coimbatore, for providing me the facilities and the institution to complete my project successfully.

I would like to express my sincere thanks to my guide Mr.R.VINAYAGA SUNDARAM, Associate Professor of Department of Management Studies, Kumaraguru College of Technology, Coimbatore who guided me all throughout the project. It is under his valuable guidance, constant interest and encouragement I have completed this project. He devoted his ever-precious time from his busy schedule and helped in complete understanding of the mutual fund industry in India.

I would like to express my sincere thanks to my parents for their constant encouragement and support in all phases of my studies.

Last but not least, I am grateful to my friends for their support and encouragement. With deep reverence to the Almighty God, I dedicate to Him this humble Endeavour of mine.

SIGNATURE OF THE STUDENT

SINDHU D.

ABSTRACT

The Internet has become an essential part of our daily life, and companies realise that the Internet can be a shopping channel to reach existing and potential consumers. Despite the explosive growth of electronic commerce and the rapidly increasing number of consumers who use interactive media (such as the World Wide Web) for pre-purchase information search and online shopping, very little is known about how consumers make purchase decisions in such settings. A unique characteristic of online shopping environments is that they allow vendors to create retail interfaces with highly interactive features. One desirable form of interactivity from a consumer perspective is the implementation of sophisticated tools to assist shoppers in their purchase decisions by customizing the electronic shopping environment to their individual preferences.

Companies want to bring up its business and control the customer attrition. They are planning to improve the performance and efficiency of its IT infrastructure. Further for this activity the company looked at moving to an OPEX model rather heavy CAPEX investments. All companies needs all of the above to be achieved along with cost minimization, profit maximization and reduced Cost of Ownership with quicker turnaround by means of technology transfer from physical in-house servers to cloud computing.

SIGNATURE OF THE STUDENT

SINDHU D.

v

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1   RESEARCH BACKGROUND

1.1.1   Background Study

One of the most popular activities on the web is shopping. It has much allure in it. The user can shop at leisure, anytime, and at any place. Literally anyone can have their pages built to display their specific goods and services.

History of ecommerce dates back to the invention of the very old notion of "sell and buy", electricity, cables, computers, modems, and the Internet. Ecommerce became possible in 1991 when the Internet was opened to commercial use. Since that date thousands of businesses have taken up residence at web sites.

At first, the term ecommerce meant the process of execution of commercial transactions electronically with the help of the leading technologies such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) which gave an opportunity for users to exchange business information and do electronic transactions. The ability to use these technologies appeared in the late 1970s and allowed business companies and organizations to send commercial documentation electronically.

Although the Internet began to advance in popularity among the general public in 1994, it took approximately four years to develop the security protocols (for example, HTTP) and DSL which allowed rapid access and a persistent connection to the Internet. In 2000 a great number of business companies in the United States and Western Europe represented their services in the World Wide Web. At this time the meaning of the word ecommerce was changed. People began to define the term ecommerce as the process of purchasing of available goods and services over the Internet using secure connections and electronic payment services. Although the dot-com collapse in 2000 led to unfortunate results and many of ecommerce companies disappeared, the "brick and mortar" retailers recognized the advantages of electronic commerce and began to add such capabilities to their web sites (e.g., after the online grocery store Webvan came to ruin, two

supermarket chains, Albertsons and Safeway, began to use ecommerce to enable their customers to buy groceries online). By the end of 2001, the largest form of ecommerce, Business-to-Business (B2B) model, had around $700 billion in transactions.

Online vendors, in their turn, also get distinct advantages. The web and its search engines provide a way to be found by customers without expensive advertising campaign. Even small online shops can reach global markets. Web technology also allows to track customer preferences and to deliver individually-tailored marketing.

1.2   IDENTIFIED PROBLEM

It was noted that there was a detoriation in the performance of the websites which reflected in the profits of the business and hence this project is mainly geared towards finding the various factors that will help in improving the performance of the websites and increasing the customer base which maximize the profit of the business.

1.3   NEED FOR THE STUDY

Indian online shopping websites, with its growing number of customers, is unable to manage the web traffic and unable to satisfy the users of the website due to their poor performance with its current IT infrastructure. The companies are losing its business to competitors.

The company wants to bring up its business and control the customer attrition. They are planning to improve the performance and efficiency of its IT infrastructure. Further for this activity the company looked at moving to an OPEX model rather heavy CAPEX investments.

The company needs all of the above to be achieved along with cost minimization, profit maximization and reduced Cost of Ownership with quicker turnaround by means of technology transfer from physical in-house servers to cloud computing.

1.4   OBJECTIVES AND SCOPE OF THE STUDY

1.4.1   Primary Objective

To study how to manage effectively the web traffic and increase customer base of online shopping websites with optimum cost.

1.4.2   Secondary Objective

To analyze the reason for the customer attrition

To understand the expectation of the customer

To bring out ways to improve the customer satisfaction

To increase the performance of the website

To reduce the Total Cost of ownership by technology transfer

To avoid capital expenditure for additional infrastructure

To suggest the ways of running business only with operating expenditure

1.4.3   Scope of the study

The project analyzes the customer's perspective towards the performance of the website.

The project also analyzes the reason for customer attrition.

1.5   DELIVERABLES

Increase the customer base of online shopping websites.

Running business with optimum cost.

CHAPTER 2

LITERATURE SURVEY

2.1. REVIEW OF LITERATURE

Title: Building Consumer-to-Consumer Trust in E Finance Marketplaces

Author(s): Martina E. Greiner and Hui Wang

Source: International journal of electronic commerce, Vol 15, No 2 (Winter 2010-2011)

Abstract:

The e-commerce sites offer huge potential for online sales, but you can't just throw up a website and expect customers to flock to your product. Too many e-merchants fail to recognize the importance of providing the best e-commerce site possible. With some simple (and some not-so-simple) adjustments, an e-commerce site can improve its profitability significantly. Some of the important factors are powerful first impression, quick loading of page, easy navigation, interactive platform, more number of products, multiple payment modes.

Title: Business Benefits of cloud computing

Author(s): Maureen O'Gara

Source: Article on Cloud Expo Web Journal, November 2008

Abstract:

The major business benefits of cloud computing includes Reduced Cost - Cloud technology is paid incrementally, saving organizations money. Increased Storage - Organizations can store more data than on private computer systems. Highly Automated - No longer do IT personnel need to worry about keeping software up to date. Flexibility - Cloud computing offers much more flexibility than past computing methods. More Mobility - Employees can access information wherever they are, rather than having to remain at their desks. Allows IT to Shift Focus - No longer having to worry about constant server updates and other computing issues, government organizations will be free to concentrate on innovation.

Title: A Business Perspective on Technology and Applications on Grid and Cloud Computing

Author(s):Stanoevska-Slabeva, K., Wozniak, T. &SantiRistol, S

Abstract:

The reasons for implementing the virtualization solution may vary. However, the pollresults published in February 2008 by Ziff-Davis Research point out to a handful ofcommon virtualization drivers presented on the diagram shown on figure 2.1.1

Dynamic development of applications of all kinds of computer technologies, includingcomputer networks, causing difficult today indicate sphere of human activity, which is not

dependent on modern information technology. From commonly used, mature technologyis expected to ease of use and above all as low investments and operating costs. Forreducing investment cost are responsible designers and manufacturers of equipmentand software.

Ease of use is primarily a development System software that allows anyuser to control a technically complex and increasingly architectural complicatedtechnology with one easy teach makes contemporary systems " very easy to use".Moreover, the mature technology expected to wider security attribute, includingassurance that the system does not allow the user to perform harmful to achieve hispurpose.The reasons for implementing the virtualization solution may vary. However, the pollresults published in February 2008 by Ziff-Davis Research point out to a handful ofcommon virtualization drivers presented on the diagram shown on figure 2.1.1.

The more recent Gartner EXP worldwide CIO survey conducted from September toDecember 2009, representing CIO budget plans reported at that time, confirmed thatvirtualization is one of the key areas in terms of priorities in times of budget cuts andlimited resources - virtualization ranked first among "Technology Priorities" for 2010.

Figure No   : 2.1.1
Figure Name:Percentage of growth in Cloud Computing
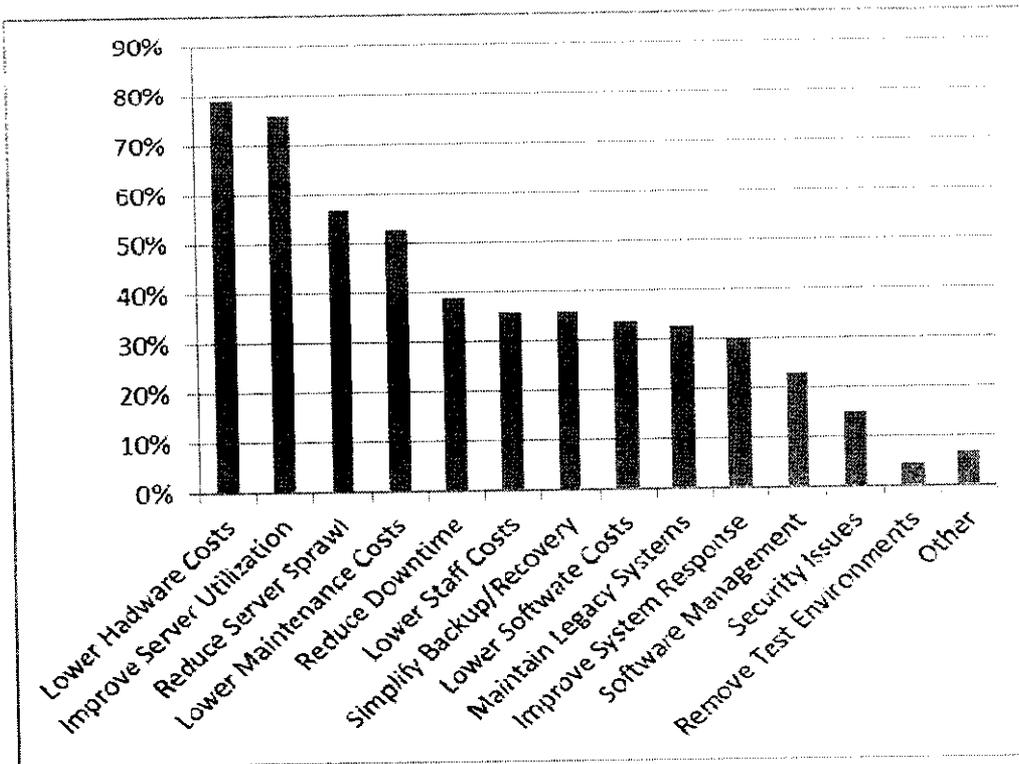
Title: Investigating the Shopping Orientations on Online Purchase Intention in the e-Commerce Environment

Environment

Author(s): Choon Ling Kwek, HoiPiew Tan, Teck-Chai Lau

Source: International journal of electronic commerce, Vol 15, No 2 (Winter 2010-2011)

Abstract:

The rapid growth of Internet technology development has enabled Malaysian consumersto purchase products or services from web-retailers and to search for productinformation over the Internet. As such, it is vital to identify the determinants of thecustomer online purchase intention. The first objective of this research is to evaluate theimpact of shopping orientations on customer online purchase intention. The secondobjective is to identify which construct has the greatest impact on purchase intention.The findings revealed that impulse purchase intention, quality orientation, brandorientation and convenience orientation are positively related to the customer

onlinepurchase intention. It is also discovered that convenience orientation is the mostimportant contributor to the online purchase intention.

The advancement of the World Wide Web has resulted in the creation of a new form ofretail format- electronic retailing (e-tailing) or web-shopping. The rapid growth of Internet technology development has enabled Malaysian consumers to purchase products orservices from the web-retailers and search product information over the Internet.However, web-retailers can only offer certain ranges of products and services to theweb-shoppers. This includes e-banking services, technology gadgets, cosmetics,clothing and airlines e-ticketing services. Wolfinbarger and Gilly (2001) assert that web-shopping presents different shopping experiences even when the same products arepurchased. Through web shopping, consumers interact in a virtual environment via thewebsite interface (Alba, Lynch, Weitz and Janiszewski, 1997; Hoffman and Novak, 1996).Hence, web shopping is perceived to be more risky and therefore trust and risk play aprominent role in online transaction (Forsythe and Shi, 2003; Pavlou, 2003).

Advancement in Internet technology has facilitated the growth of in-home shopping(Lumpkin & Hawes, 1985). Shim, Quereshi and Siegel (2000) define web-shopping asthe process that consumers go through to purchase products or services over theInternet. The terms online shop, Internet shop, web-shop and online store are usedinterchanged in the extant literature. Web-shopping is an e-commerce application usedfor business-to-consumer (B2C) or business-to-business (B2B).

From the consumer's viewpoint, web shopping allows the web shopper to search andcompare various product or service alternatives from different online stores that arelocated in different parts of the world. The interactive nature of the Internet offersopportunities for consumers to use the web shopping facilities effectively by improvingthe availability of product information thus enabling direct multi attribute comparisonsand subsequently reduce prospective buyers' information search costs (Alba et al.,1997).

The Internet also provides benefits to companies. As consumers are increasingly usingthe Internet as a shopping approach in performing their purchasing activities, companiescan take this

opportunity to use the Internet as a medium to attract and maintain currentand potential customers. In this regard, online retailers must understand consumers'perceptions of website characteristics and their online shopping behavior.

Title: The Economics of the AWS Cloud vs. Owned IT Infrastructure

Author(s): Dr. Frank Munz

Source: Documentation of Amazon Web Services, December 7, 2009

Abstract:

Amazon Web Services (AWS) offers companies of all sizes an elastic, reliable, flexible, low-cost infrastructure web services platform in the cloud. Many companies have already launched applications in the cloud while others are currently evaluating the costs and benefits of moving some or their entire IT infrastructure to the cloud. This document presents a qualitative discussion of the costs of Amazon Web Services vs. traditional IT infrastructure alternatives. The discussion below offers a comparative analysis of several direct costs of ownership such as hardware costs and asset utilization, data redundancy and security, supply chain management, power and cooling efficiency, and personnel costs. Also included in this document is a brief discussion on the indirect costs of running your own data centers. Finally, AWS has published an Amazon EC2 Cost Comparison Calculator, a Microsoft Excel-based quantitative tool, to help financial decision makers quantify the direct economic benefits of cloud computing compared to traditional IT infrastructure alternatives.

Direct Costs

Asset Utilization

Utilization of hardware assets is one of the key areas where enterprises can benefit from deploying to the cloud. In traditional enterprise-owned data centers, server utilization commonly averages 5%-20% when measured annually.1 While investments in virtualization and related technologies can improve server utilization, the CIOs with whom AWS is in regular contact believe that post-virtualization utilization rates of 20%-25% are still the highest they can achieve. In contrast, the AWS pay-for-use pricing model only charges customers for resources they actually use, so customers can effectively achieve close to 100% utilization. AWS is able to achieve greater overall utilization of its hardware assets because of its large and heterogeneous

customer population. Within that population exists thousands of workloads, with non-correlating peaks and valleys.

As an example, a financial services firm with peaks at the beginning and end of each trading day will have their utilization offset by an ecommerce firm with a shopping peak in the middle of the day and by a pharmaceutical company data analysis job running overnight. In addition, this large customer base allows AWS to make larger investments in efficiency innovations than individual enterprises, leading to continuous maximization of its infrastructure efficiency, ultimately benefitting AWS customers.

Moreover, Amazon Elastic Compute Cloud (Amazon EC2) features such as Auto Scaling and Elastic Load Balancing enable businesses to automatically grow or shrink their usage of AWS based on the actual performance of their application. In so doing, they can minimize their waste of AWS resources and achieve a utilization rate that truly does approach 100%.

Hardware Costs

Thinking about long-term value of assets is critical for enterprises making multi-million dollar investments in IT infrastructure. In typical enterprise data centers, large initial capital outlays make ongoing upgrades in technology (i.e., the newest servers, routers, or load balancers) prohibitively expensive. Over time costs remain fixed, but so does performance. The economies of scale available with the cloud allow AWS to purchase large volumes of hardware at very low costs. Consequently, AWS customers reap the benefits of decreasing costs, increasing performance, and enhanced functionality over time. The expectation of improving performance at lower costs is illustrated by the cost of Reserved Instances for Amazon EC2, which offers over 50% savings from On-Demand (hourly) prices. Reserved instances can also be turned off at any time they're not being used to avoid usage charges (e.g., to cover costs of cooling, power, etc.). These are costs that enterprises can't avoid if they are running data centers themselves.

Power Efficiency

According to most industry reports, the average data center Power Usage Effectiveness (PUE) is 2.5. This means that for every 1 Watt of power that is delivered to the servers, 1.5 Watts are wasted in overhead. Serious energy-efficiency efforts require dedicating IT and Engineering resources, using the most efficient equipment, and adhering to industry best practices, which often are not feasible expenses for enterprises.

However, heavily-invested data centers, such as the ones that make up the AWS cloud, are far more efficient than average. Businesses looking to run their own data centers would need to invest heavily in ongoing efficiency efforts to decrease the PUE ratio of their facilities. However, to justify the needed investments, businesses must be operating on a large scale, with a large number of servers across multiple data centers. Managing multiple data centers, each with a large number of servers, is more efficient than managing an enterprise-sized data center.

Enabling Redundancy

A highly reliable and available IT infrastructure requires enterprises to not only maintain reliable storage and backup devices, but also operate a reliable network with redundant networking devices, transit connections, and physical connections between data centers. This goes beyond RAID, given the average failure rates inherent in any single storage array or device. In addition to backup and reliable networking, enterprises must also have a tested, working solution for disaster recovery. This includes deploying data and applications across multiple data centers – either with failure resilient software or in a more traditional hot/cold standby approach. To achieve realistic disaster recovery, all of the data centers and servers involved have to be constantly utilized; if they sit idle, it's almost certain they won't function as desired when activated from a cold start. So an enterprise needs to account for both the cost and the complexity of this redundancy when evaluating their deployment. In contrast, AWS includes all this in its simple usage charges, and lets customers easily do things like deploy servers in multiple Availability Zones, which will not fail due to the same physical causes (e.g. power failures, cooling failures, fire, lightning, etc.).

Security

Another direct cost for enterprises running their own data center is ensuring the confidentiality, integrity, and availability of business critical data. Examples of security costs for enterprises include capital expenditures for network security devices, security software licenses, staffing of an information security organization, costs associated with information security regulatory compliance, physical security requirements, smart cards for access control, and so on.

To provide end-to-end security and end-to-end privacy in the cloud, AWS builds services in accordance with security best practices and features, and clearly documents how developers can effectively use those features. AWS customers thus take advantage of Amazon's reliable and secure global computing infrastructure, which has been the backbone of Amazon.com's multi-billion dollar retail business for more than 15 years, at no additional cost to the customer. For more information on AWS security, consult the Amazon Web Services: Overview of Security Processes whitepaper at aws.amazon.com/security.

Supply Chain Management

In traditional enterprise data centers, it is fairly common to experience capacity constraints caused by the time that passes from when hardware is ordered to when it is brought online – often running many months. Such long lead times necessitate having excess capacity that spreads throughout the pipeline and increases costs. Dedicated service providers like AWS minimize this excess capacity by devoting significant resources to effectively managing its supply chain and amortizing these investments over a large customer and hardware base. It is difficult for enterprises to justify spending as much time and money when amortizing these investments over even a large enterprise data center, as it would typically serves fewer customers and contains far less hardware than the AWS cloud.

Indirect Costs

As important as direct cost savings are, there are many indirect costs that attract customers of all sizes to the AWS cloud. Foremost among them is the opportunity cost of owning, operating, and maintaining traditional IT infrastructure. Running large scale, high availability infrastructure requires the efforts of many talented staff members and the dedicated attention of upper level

management. This represents lost opportunity for enterprises to focus on and innovate in their core businesses.

Many customers have stated that AWS is more reliable than what they achieve themselves. For example, consider how often corporate email is inoperative or unreliable for many companies. AWS offers in-the-cloud services that many thousands of external customers use for mission-critical applications, and this requires

AWS to prioritize operational excellence and spend significant resources monitoring its systems 24 hours a day, 7 days a week. Indeed, operational excellence has always been the lifeblood of Amazon.com. AWS also publishes a service health dashboard to provide continuous, real-time visibility into operational performance.

Moreover, many enterprises simply don't have the capital budgets required to build, extend, or replace IT infrastructure in a capital-constrained environment. As a result, many are simply foregoing important projects due to lack of capital. Enterprises also find that the flexibility offered by the AWS platform enhances the agility of their business, improving their ability to requisition compute resources, experiment quickly, or manage unanticipated demand. Using Amazon Web Services, an e-commerce web site can weather unforeseen demand with ease; a pharmaceutical company can "rent" computing power to execute large-scale simulations without having to go through a laborious requisition process; a media company can, within minutes, serve unlimited videos, music, and more; and an enterprise can deploy bandwidth-consuming services and training to its mobile workforce. The cloud is not simply a way of saving money, but it also makes it possible to be more productive, more agile, and more responsive to opportunity than is possible by simply provisioning physical hardware in an enterprise's own data center.

CHAPTER 3

RESEARCH METHODOLOGY

Research methodology is to systematically solve the research problem. It may be understood as science of study, how research is done scientifically. The methods adopted in collecting the data analysis and interpretation of data.

3.1 DATA REQUIREMENT

Customer Needs in the website

Customer satisfaction level in the performance of the website

Customer likes and dislikes in the website

Estimated cost and expenditure of the physical in house server and maintenance

Estimated cost and expenditure of the cloud infrastructure and maintenance

3.2 TYPE OF RESEARCH DESIGN

Research design is the basic frame work which provides guidelines for whole research methodology. Descriptive type of research is used in this research.

The purpose of using descriptive research is to collect the existing facts about online shopping websites.

3.3 RESEARCH INSTRUMENT AND DATA COLLECTION METHOD

3.3.1 Primary Data

Questionnaire: To collect information from the customers or buyers of the website

3.3.2 Secondary Data:

Published in website: To collect the pricing details of the physical in house servers and cloud infrastructure.

3.4 QUESTIONNAIRE DESIGN

The questionnaire framed for the research study is a structured questionnaire in which all the questions are predetermined before conducting the survey. Questions are of both closed and open type.

The scales used to evaluate questions are:

Dichotomous scale (Yes or No)

LIKERT 5 point scale (Highly dissatisfied, satisfied, Neutral, dissatisfied, highly satisfied)

Category scale (Multiple items)

The questionnaire for the research is framed in a clear manner such that it enables the respondents to understand and answer the question easily. The questionnaire was designed in such a way that the questions are short and simple and is arranged in a logical manner.

3.5 PILOT STUDY

This research includes a pilot study among 10% of the respondents from the sample size to test, verify & validate the questionnaire.

3.6 SAMPLE DESIGN

A Sample design is a definite plan for obtaining a sample from a given population. It is the procedure used by the researcher in selecting items for the sample.

3.6.1 Sampling Method

Sampling involves selecting a relatively small number of elements from a large defined group of elements and expecting that the information gathered from the small group of elementsshould reflect the opinion of the large group. The sampling method chosen for this project is convenient sampling for selecting the respondents.

3.6.2 Sample Size

The size of the sample is 43.

3.7 DATA PROCESSING

Research is conducted for the purpose of acquiring information. Raw data as such does not provide information. Further analyzes needs to be done to crunch information out of data. Data analysis involves application of statistical techniques for reducing accumulated data to a manageable size leading to summaries. Data processing consists of Data Collection, Data coding, Formatting and Storing.

3.7.1 Data Collection

Both primary and secondary data is used for this project.

3.7.2 Data Capturing Mechanism

The primary data is collected through a structured questionnaire from the online users through emails.

Secondary data is collected by conducting detailed literature survey through magazines, journals, from previous thesis work and websites.

3.7.3 Data Coding, Formatting & Storing

Data is collected in the form of softcopy i.e. the questionnaire is sent and responses are captured in Excel.

3.8   ASSUMPTION, CONSTRAINTS &LIMITATION

The study and analysis will be done based on the inputs/responses to the questionnaire from the target respondents, who are users of online shopping site.

This study will be conducted only in India and thus it will be a region specific.

The accuracy of findings is limited by the accuracy of statistical tools used for the analysis.

The number of respondents preferred is limited to 50 members.

3.9   STATISTICAL TOOLS& INTERPRETATION METHODOLOGIES

The below statistical tools will be used to analyze and interpret the data collected from various sources.

Percentage analysis

Weighted average Method

Karl Pearson's Coefficient of Correlation

Regression Analysis

- **Percentage analysis**

$$\text{Percentage} = \frac{Number of respondents}{Total number of respondents} \; x \; 100$$

- **Weighted average method**

The term weight stands for the relative importance of the different items. The formula for computing weighted average is,

$$\text{Weighted Average} = \sum_{i=1}^{n} \frac{W_i X_i}{N}$$

X_i :   Variable value

W_i :   Weight attached to the variable value

N :   Total no of responses

- ### Karl Pearson's coefficient of Correlation

To test whether there exist significant correlation between performance of the website and satisfaction level of the user.

Coefficient of Correlation (r) :

$$r = \frac{dx\sum y - (dx.\sum y)/n\sum}{dx^2 - (dx)^2/n \sqrt{\sum - \sum dy)^2/\sum} \sqrt{\sum} \sqrt{\sum}}$$

X= Average performance of the website.

Y= Satisfaction level of the user.

r =coefficient of correlation.

If the coefficient of correlation is greater than 0.7, then it is highly correlated.

- ### Regression Analysis

To measure the average relationship and dependency between performance of the website and satisfaction level of the user.

Coefficient of Regression:

$$b_{yx} = \frac{n \ xy - x \sum \sum \sum}{n \sum x^2 - (\sum x)^2}$$

X= Average performance of the website.

Y= Satisfaction level of the user.

b_{yx}=coefficient of correlation.

Regression equation of y on x is $y - \bar{y} = b_{yx}(x - \bar{x})$

CHAPTER 4

DATA ANALYSISAND INTERPRETATION

4.1 PERCENTAGE ANALYSIS

Based on questionnaires collected from 43 respondents are analyzed to study on technology effectiveness on online shopping in India.

Table No : 4.1.1

Table Name : Response on Internet shopping users

SI No.	Internet shopping users	No of respondents	% of respondents
1	Yes	43	100%
2	No	0	0%
	Total	43	100%

Figure No : 4.1.1

Figure Name : Response on Internet shopping users

Internet shopping users
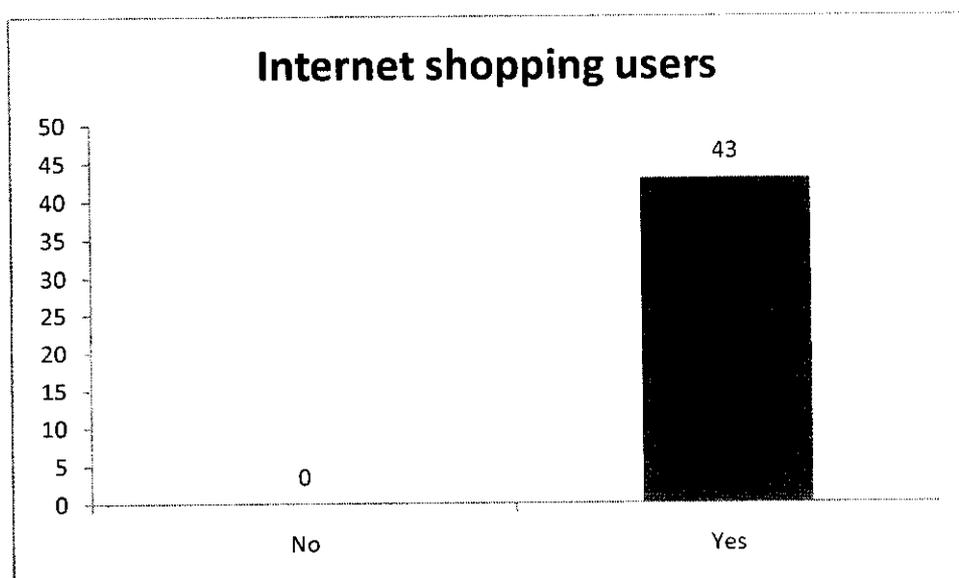
Interpretation:

All of the 43 respondents are shopping online. It's good that it is 100% of respondents are online shoppers and they had visited at least any few of the top 10 online shopping websites.

Table No   **: 4.1.2**

Table Name   **: Response on internet usage for shopping everyday by respondents**

SI No	Internet usage for shopping everyday	No of respondents	% of responses
1	Less than 1 hour	18	43%
2	1-2 hours	10	24%
3	2-3 hours	8	19%
4	More than 4 hours	6	14%
	Total	**43**	100%

Figure No   **: 4.1.2**

Figure Name   **: Response on internet usage for shopping everyday by respondents**
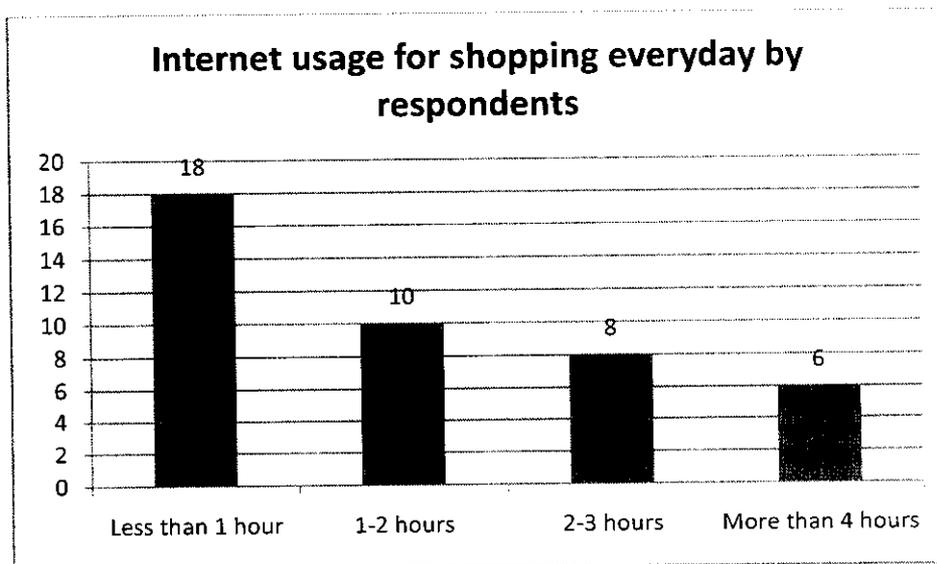
Interpretation:

It is good that around 50% of the users look e-commerce sites for online shopping every day for at least few minutes.

Table No : 4.1.3

Table Name : Response on purchase transactions made in last 1 year by respondents

SI No.	Purchase transactions in last 1 year	No of respondents	% of responses
1	1 to 5	5	12%
2	6 to 10	11	26%
3	10 to 50	22	50%
4	more than 50	5	12%
	Total	43	100%

Figure No : 4.1.3

Figure Name : Response on purchase transactions made in last 1 year by respondents

Purchase transactions made in last 1 year
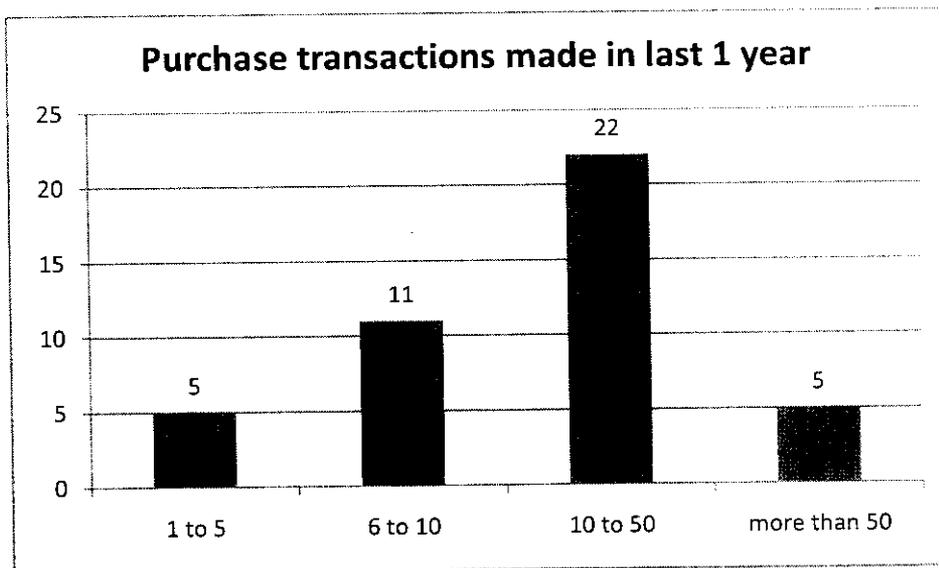
Interpretation:

It is good that 50% of the users have made around 10 to 50 transactions for shopping through online for the past one year and 12% of the users have made more than 50 transactions in last year.

Table No : 4.1.4

Table Name : Response on maximum purchases done in a site by respondents

SI No.	Purchase transactions in last 1 year	No of respondents	% of responses
1	www.bluebug.in	1	2%
2	www.flipkart.com	19	44%
3	www.ebay.in	7	16%
4	www.makemytrip.com	2	5%
5	www.bookmyshow.com	8	19%
6	www.bigbasket.com	0	0%
7	www.redbus.in	3	7%
8	www.firstcry.com	1	2%
9	www.myntra.com	1	2%
10	www.yebhi.com	1	2%
	Total	43	100%

Figure No : 4.1.4

Figure Name : Response on maximum purchases done in a site by respondents

Purchase transactions in last 1 year
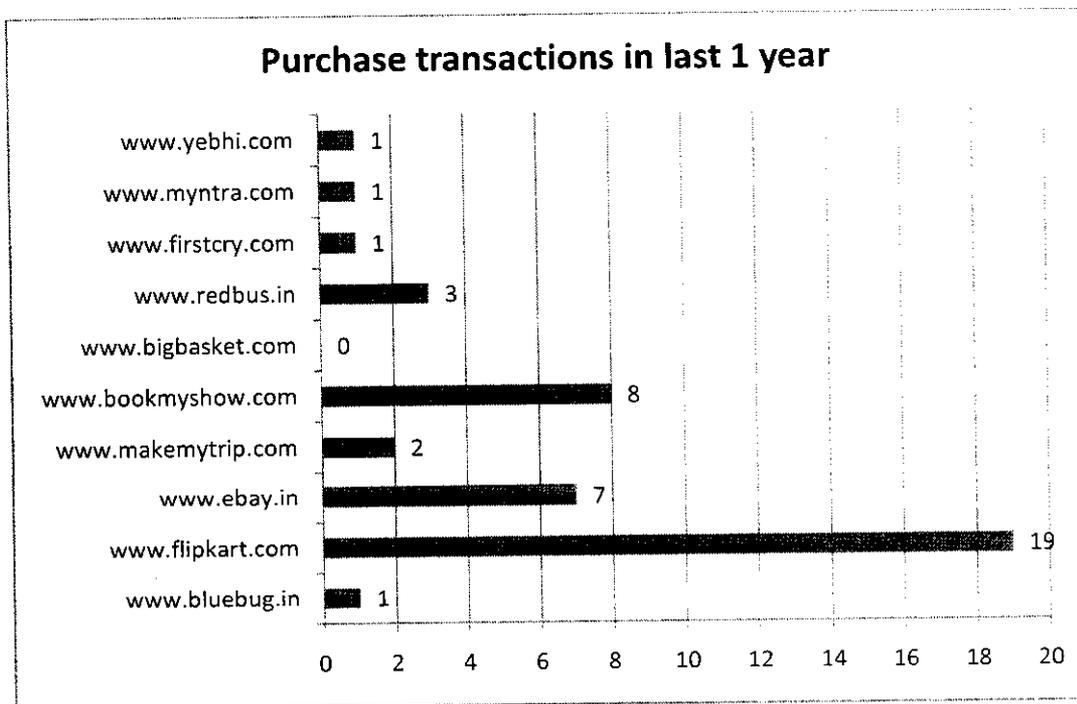
Interpretation:

It is identified as 44% of the users have done more purchase in most popular sites like www.flipkart.com which has all varieties of product for all kinds of people.

Table No : 4.1.5

Table Name : Response on rating of most purchased site against other e-commerce sites

SI No.	Rating	No of respondents	% of responses
1	Very Poor	0	0%
2	Poor	0	0%
3	Average	10	23%
4	Good	27	63%
5	Very Good	6	14%
	Total	43	100%

Figure No : 4.1.5

Figure Name : Response on rating of most purchased site against other e-commerce sites
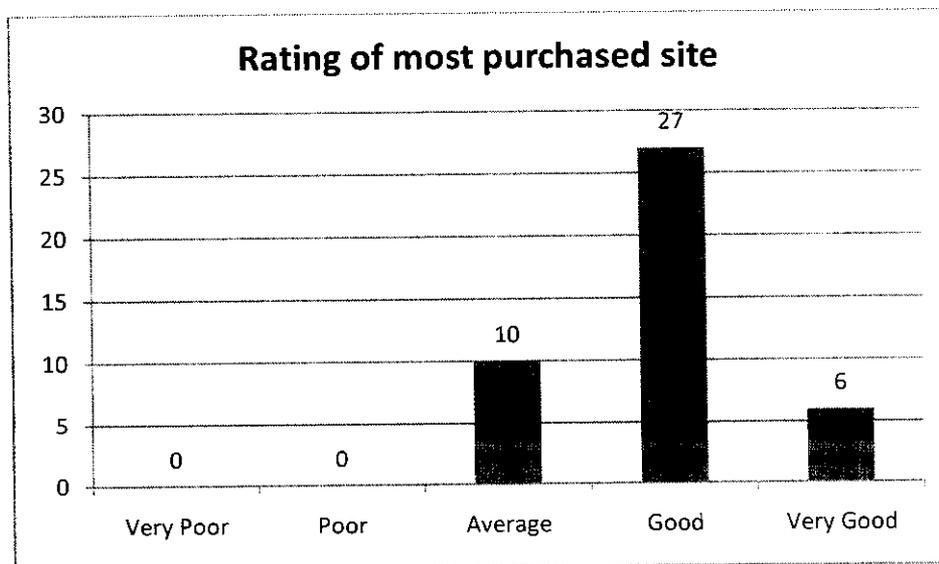
Interpretation:

It has been identified that 63% of users rate their frequently used sites as good compared to other e-commerce sites and 14% of the user rate as very good when compared to other e-commerce sites.

Table No : 4.1.6

Table Name : Response on number of purchases in most purchased site in last 1 year

SI No.	No of purchases	No of respondents	% of responses
1	1 to 5	12	28%
2	6 to 10	19	44%
3	10 to 20	10	23%
4	20+	2	5%
	Total	43	100%

Figure No : 4.1.6

Figure Name : Response on number of purchases in most purchased site in last 1 year
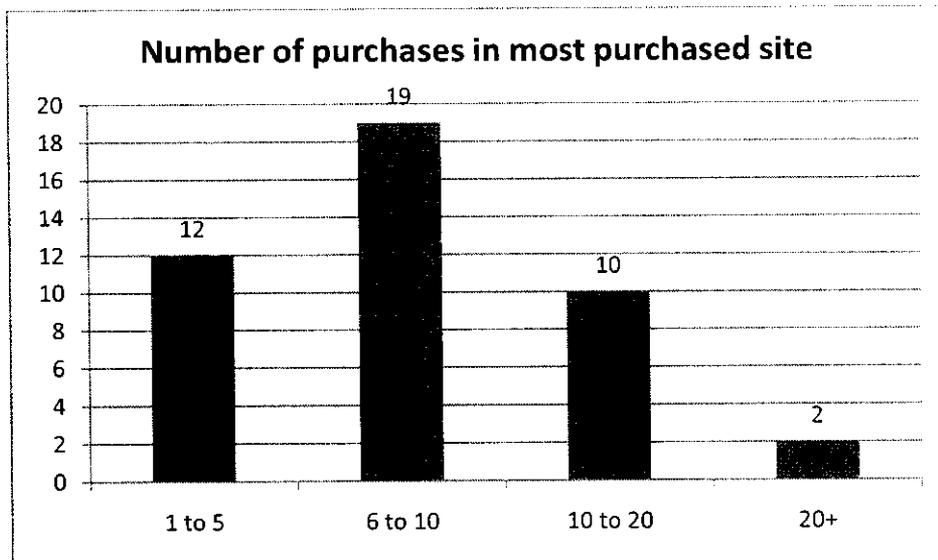
Interpretation:

Respondents have been returning to their most purchased site quite often. In their most purchased site, 28% of the respondents have purchased 1 to 5 products, same 44% of the respondents have purchased 6 to 10 products, around 23% of the respondents purchased 10 to 20 products in the same site and 5% of the respondents have purchased more than 20 products from their most purchased site.

Table No : 4.1.7

Table Name : Response on any transaction failures in most purchased site

SI No.	Transaction failures	No of respondents	% of responses
1	Yes	14	33%
2	No	29	67%
	Total	43	100%

Figure No : 4.1.7

Figure Name : Response on any transaction failures in most purchased site

Transaction failures
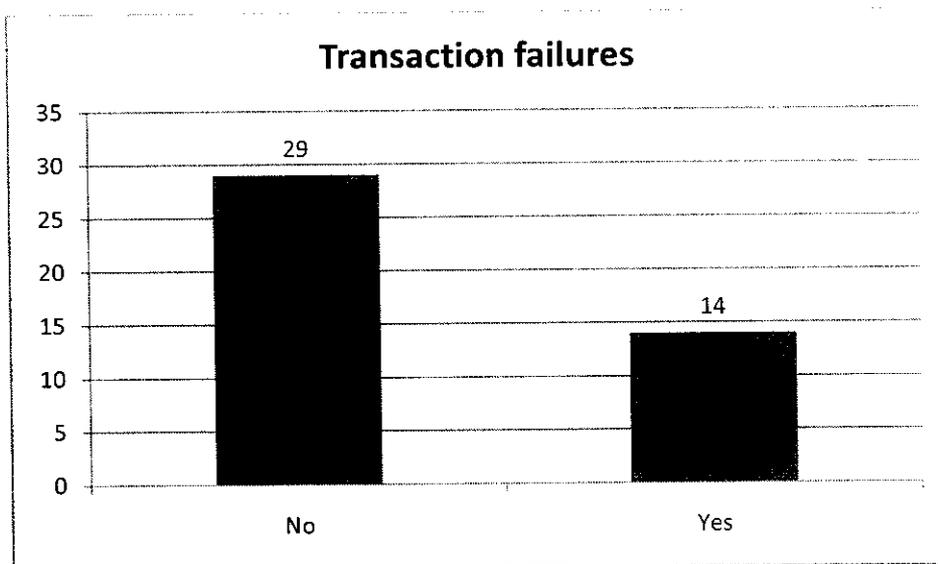
Interpretation:

33% of the user faces the failure in transaction in their most purchased site. It is one of the key factors for the successfulness of the e-commerce site.

Table No : **4.1.8**

Table Name : **Response on level of satisfaction on variety of products and catalogs available in most purchased site**

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	1	2%
2	Dissatisfied	1	2%
3	Neutral	10	23%
4	Satisfied	29	67%
5	Highly Satisfied	2	5%
	Total	**43**	**100%**

Figure No : **4.1.8**

Figure Name : **Response on level of satisfaction on variety of products and catalogs available in most purchased site**

Products and catalogs
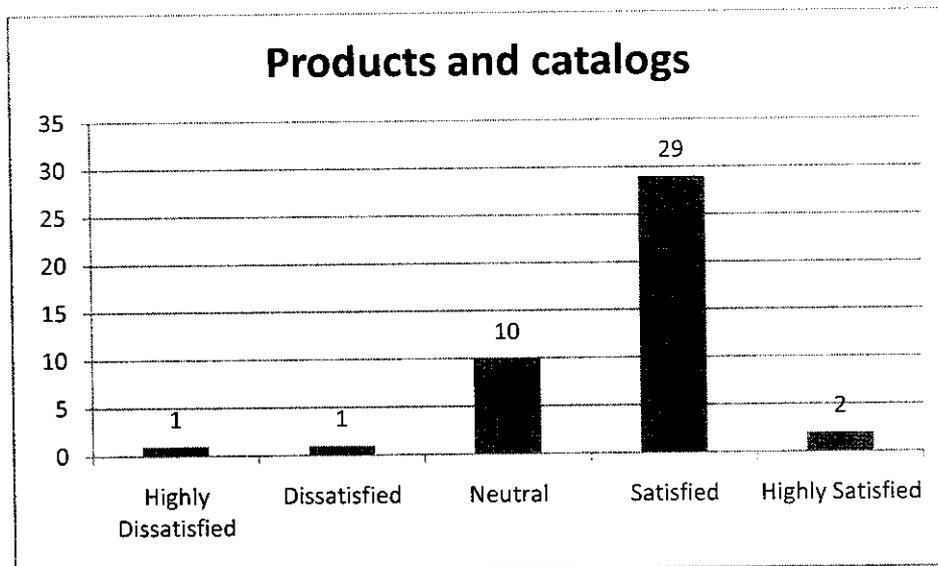
Interpretation:

It has been identified that 67% of the users are normally satisfied and 10% of the users are neutral and 5% of the users are highly satisfied about the variety of products and catalogs in most purchased site. Products and catalogs are the key factor that attracts the people of all kinds.

Table No : 4.1.9

Table Name : **Response on level of satisfaction of price and offers available in most purchased site**

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	0	0%
2	Dissatisfied	0	0%
3	Neutral	12	28%
4	Satisfied	29	67%
5	Highly Satisfied	2	5%
	Total	**43**	**100%**

Figure No : 4.1.9

Figure Name : **Response on level of satisfaction of price and offers available in most purchased site**
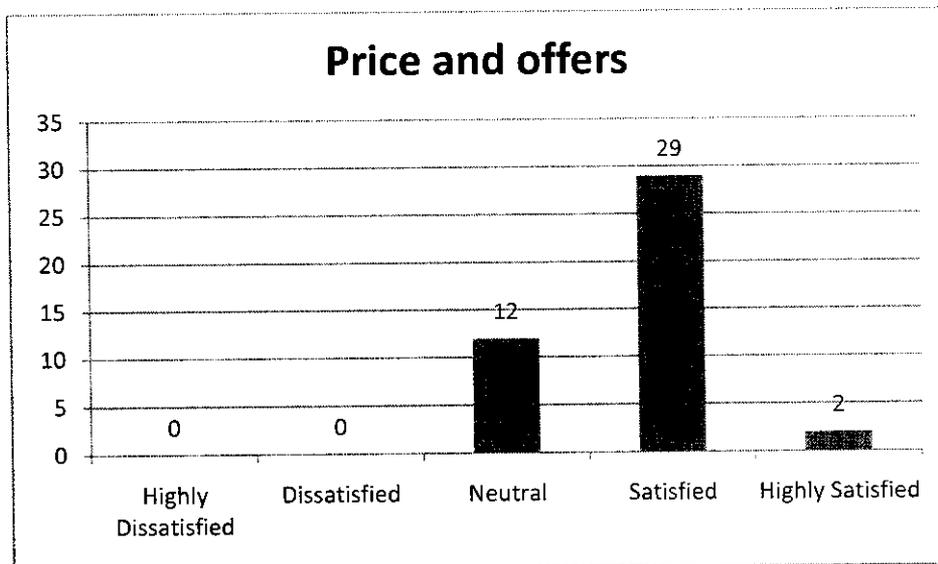
Price and offers

Interpretation

It has been identified that 67% of the users are normally satisfied and the 28% of the user are neutral about the price and offer range available in the most purchased sites. Prices and offers are the key factor that attracts the people of all kinds.

Table No   : 4.1.10

Table Name   : Response on level of satisfaction on time taken for navigation from one page to another in most purchased site

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	1	2%
2	Dissatisfied	2	5%
3	Neutral	8	19%
4	Satisfied	29	67%
5	Highly Satisfied	3	7%
	Total	**43**	**100%**

Figure No   : 4.1.10

Figure Name : Response on level of satisfaction on time taken for navigation from one page to another in most purchased site
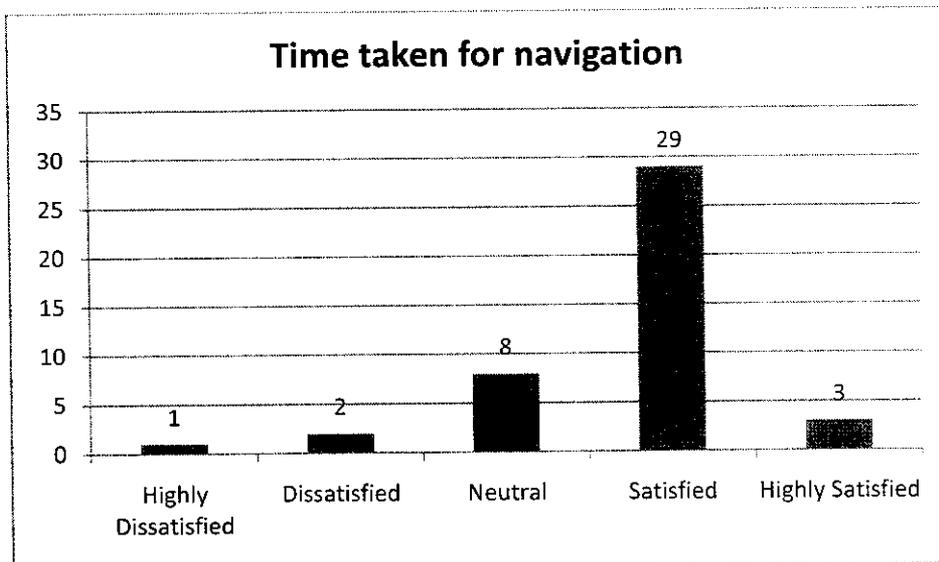
Interpretation:

It has been identified that 67% of the users are normally satisfied with the navigation from one page to another. Page navigation plays a vital role in the success of the e-commerce sites.

Table No : 4.1.11

Table Name : **Response on level of satisfaction with the response time of the page loading in your most purchased site**

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	0	0%
2	Dissatisfied	0	0%
3	Neutral	8	19%
4	Satisfied	32	74%
5	Highly Satisfied	3	7%
	Total	**43**	**100%**

Figure No : 4.1.11

Figure Name : **Response on level of satisfaction with the response time of the page loading in your most purchased site**
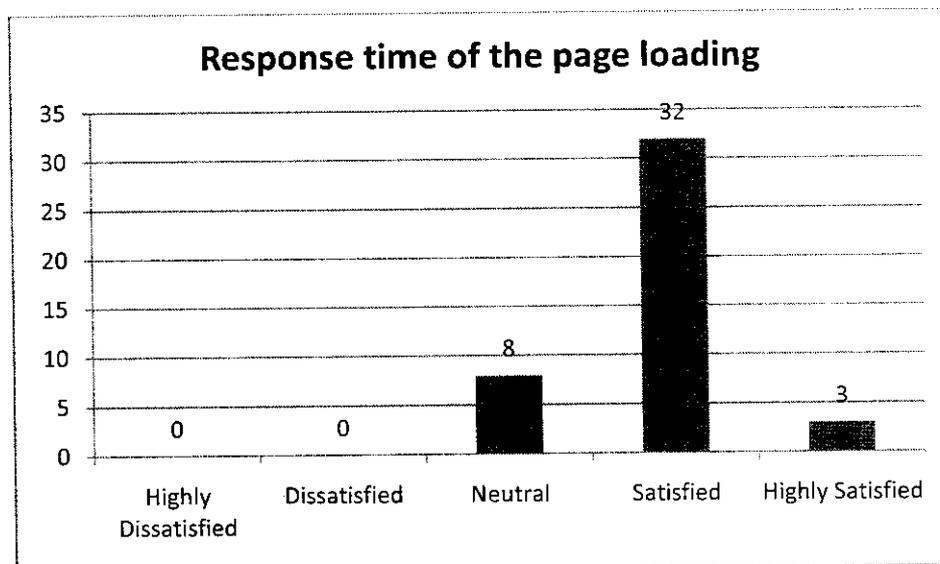
Interpretation:

It has been identified that 74% of the users are normally satisfied with the response time of the page loading. Page loading plays a vital role in the success of the e-commerce sites.

Table No   : 4.1.12

Table Name   : Response on level of satisfaction on the checkout speed of a product in most purchased site

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	0	0%
2	Dissatisfied	1	2%
3	Neutral	9	21%
4	Satisfied	26	60%
5	Highly Satisfied	7	16%
	Total	**43**	**100%**

Figure No   : 4.1.12

Figure Name : Response on level of satisfaction on the checkout speed of a product in most purchased site
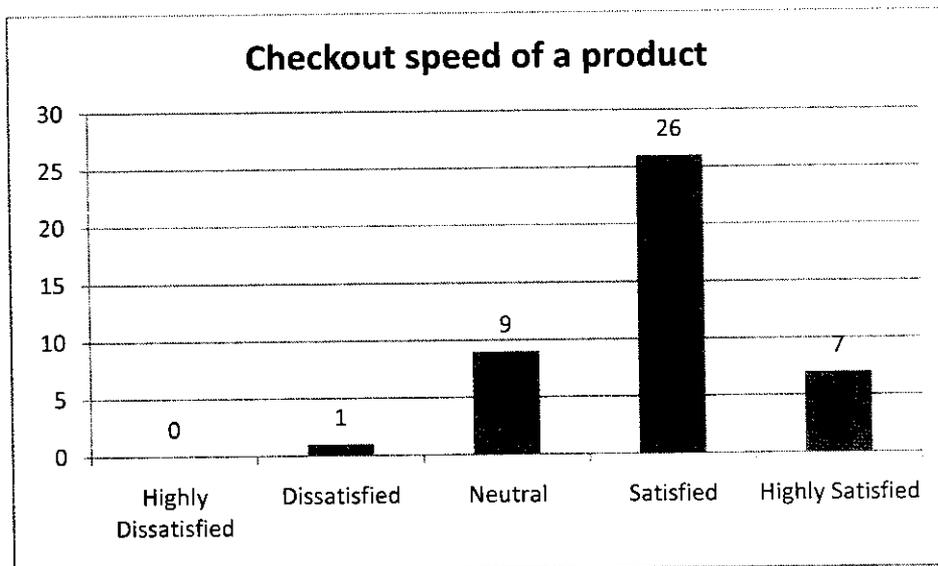
Interpretation:

It has been identified that 16% of the users are highly satisfied and 60% of the users are normally satisfied on the checkout speed of the product in most purchased site. Checkout speed does not play major role but it contributes for the e-commerce site performance.

Table No : 4.1.13

Table Name : Response on level of satisfaction of the payment gateway options available in your most purchased site

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	0	0%
2	Dissatisfied	0	0%
3	Neutral	7	16%
4	Satisfied	27	63%
5	Highly Satisfied	9	22%
	Total	**43**	**100%**

Figure No : 4.1.13

Figure Name : Response on level of satisfaction of the payment gateway options available in your most purchased site
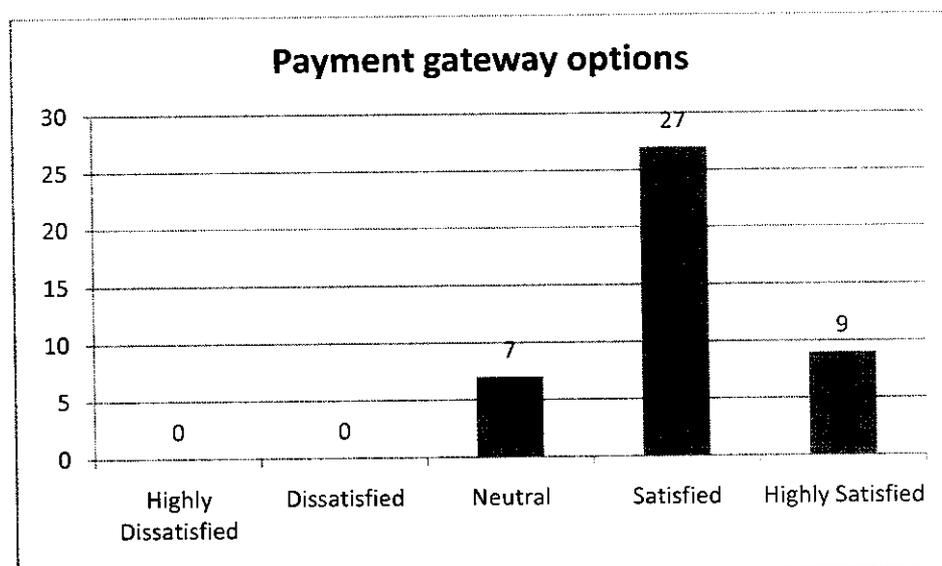
Interpretation:

22% of the users are highly satisfied and 63% of the users are normally satisfied with the payment gate way option.This is not the key reason for the users to rate the most frequently used e-commerce site as good when compared to other e-commerce sites in India. But payment gateway needs to be well developed to have successful payment transaction.

Table No   : 4.1.14

Table Name   : Response on level of satisfaction in shipping and delivery of products purchased in most purchased site

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	0	0%
2	Dissatisfied	1	2%
3	Neutral	8	19%
4	Satisfied	22	51%
5	Highly Satisfied	12	28%
	Total	43	100%

Figure No   : 4.1.14

Figure Name : Response on level of satisfaction in shipping and delivery of products purchased in most purchased site
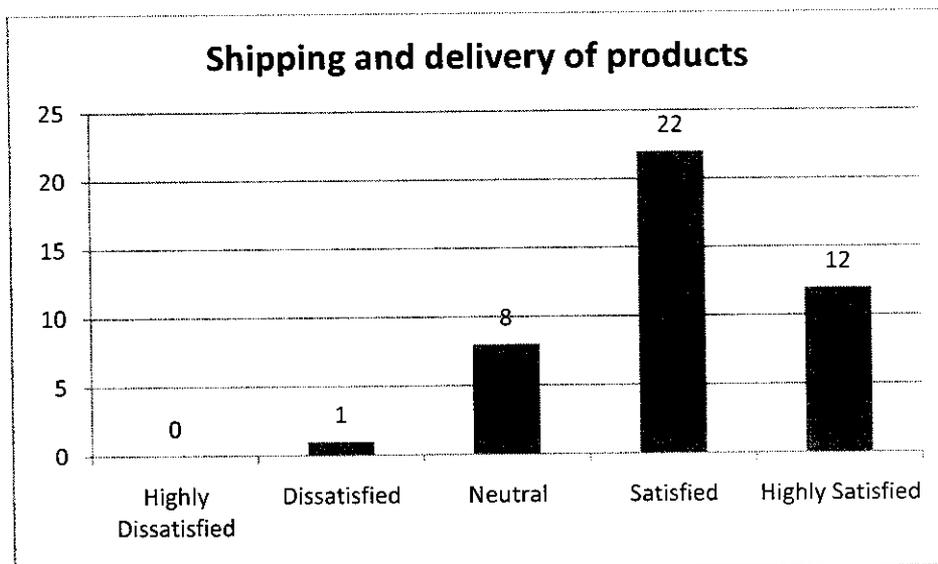
Interpretation:

28% of the users are highly satisfied and 51% of the users are satisfied. Shipping and delivery plays a vital role, such that products need to be shipped without any damage and users expect offers and free delivery for their most purchased sites.

Table No : 4.1.15

Table Name : Response on overall satisfaction level of most purchased site

SI No.	Level of satisfaction	No of respondents	% of responses
1	Highly Dissatisfied	0	0%
2	Dissatisfied	1	2%
3	Neutral	7	16%
4	Satisfied	27	63%
5	Highly Satisfied	8	19%
	Total	**43**	**100%**

Figure No : 4.1.15

Figure Name : Response on overall satisfaction level of most purchased site
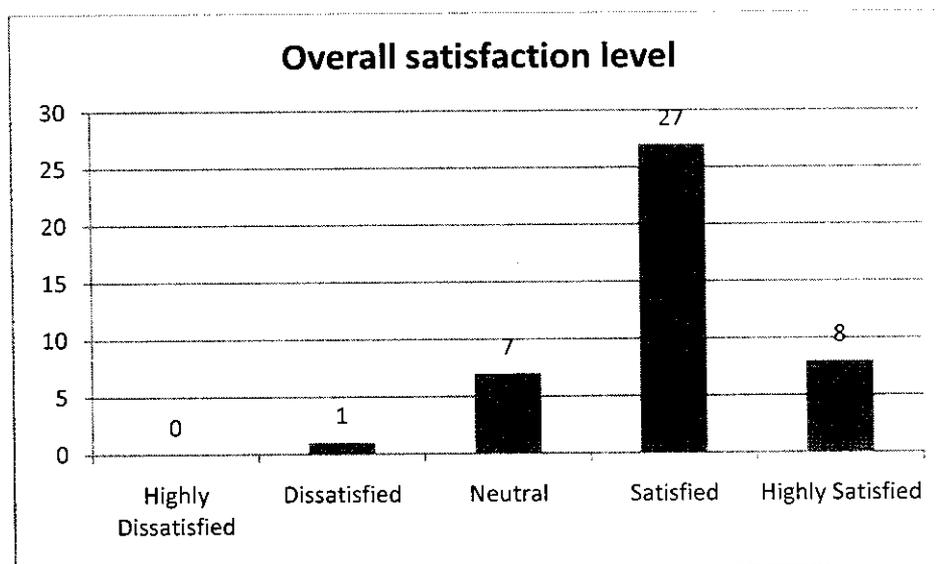
Interpretation

19% of the users are highly satisfied and 63% of the students are satisfied with their e-commerce sites they are using. It is identified that user expects more like catalogs, price range, performance to satisfy their expectation level and make them highly satisfied.

Table No : 4.1.16

Table Name : Response on like most in most purchased site

SI No.	Like most in most purchased site	No of respondents	% of responses
1	User Interface (Appearance)	4	9%
2	Speed, Performance & High availability	11	26%
3	Price and Offers	25	58%
4	Payment gateway	3	7%
	Total	43	100%

Figure No : 4.1.16

Figure Name : Response on like most in most purchased site
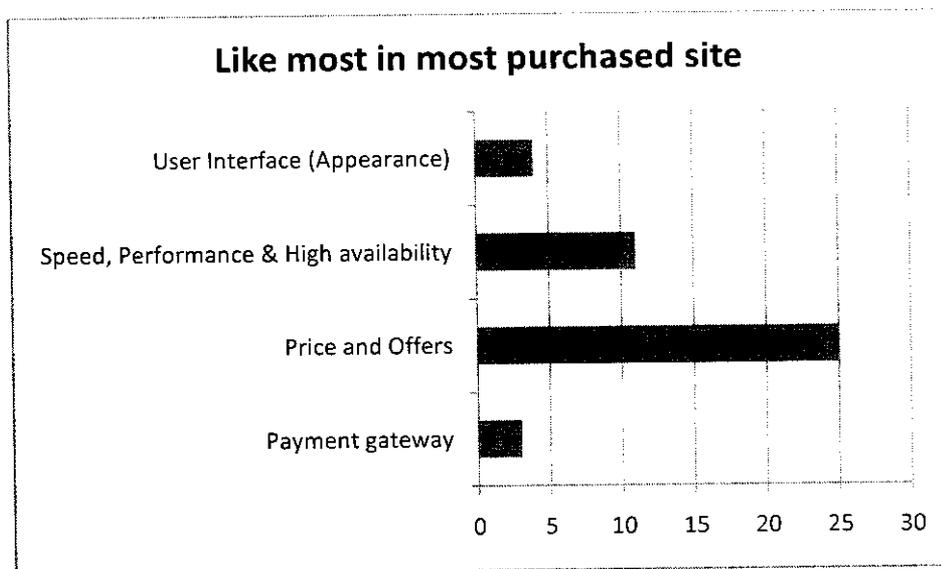
Interpretation:

It is identified that 58% of the user prefer the e-commerce site for the wide range of price and offers and 26% of the user prefer for speed, performance and high availability. Customer base can be maintained by providing wide range of prices and improving the speed, performance of the e-commerce sites.

Table No   : 4.1.17

Table Name   : Response on like least in most purchased site

SI No.	Like Least in most purchased site	No of respondents	% of responses
1	User Interface (Appearance)	10	23%
2	Speed, Performance & High availability	10	23%
3	Price and Offers	14	33%
4	Payment gateway	9	21%
	Total	43	100%

Figure No   : 4.1.17

Figure Name : Response on like least in most purchased site
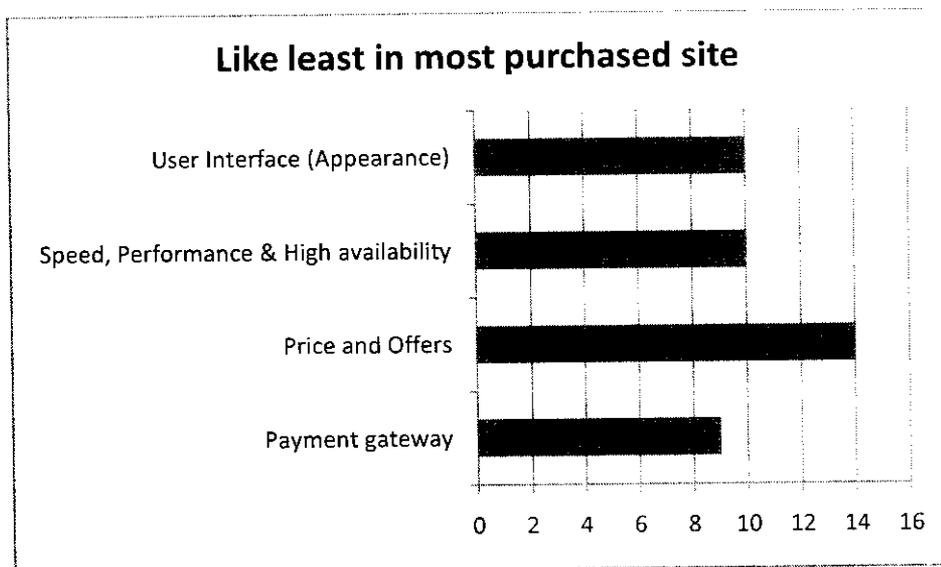
Interpretation:

It is well identified that price and offers are least liked by most of the customer.It is one of the key reasons for the users to switch from one e-commerce site to the other in India. So to maintain the customer base, the site should produce some discount price for most often users and many festival offers.

Table No : 4.1.18

Table Name : Response on still an active/regular user to most purchased site

SI No.	Still an active user to most purchased site	No of respondents	% of responses
1	Yes	40	93%
2	No	3	7%
3	Total	43	100%

Figure No : 4.1.18

Figure Name : Response on still an active/regular user to most purchased site
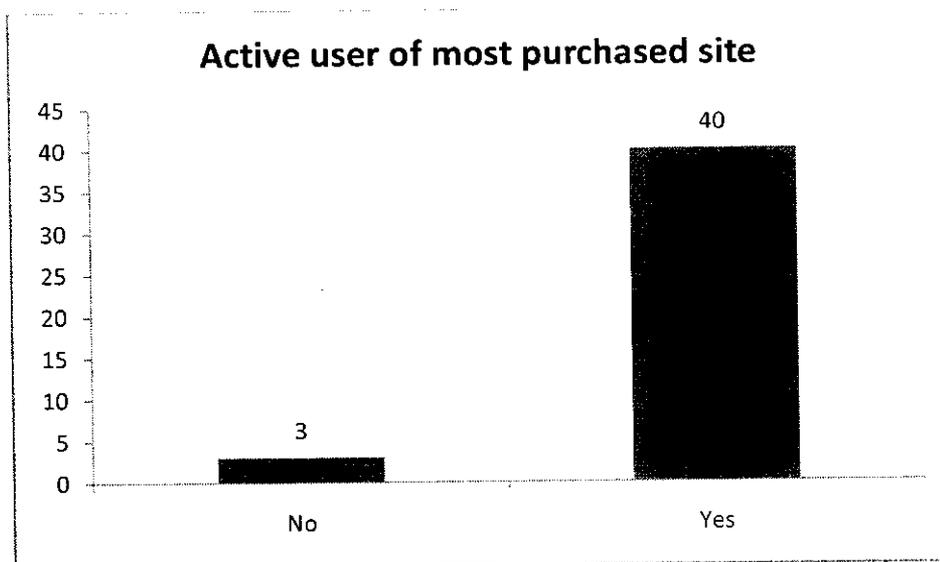
Interpretation:

93% of the users are regular/active user of the e-commerce sites to browse products and catalogs, to compare between products, to find out the price of the products and also to purchase a product. So the performance of the website is very much important to satisfy the users.

4.2 WEIGHTED AVERAGE METHOD

Table No : **4.2.1**

Table Name : **Response on rating of most purchased site against other e-commerce sites**

SI No.	Rating	No of respondents	Weight	Total	Mean score
1	Very Poor	0	1	0	3.90
2	Poor	0	2	0	
3	Average	10	3	30	
4	Good	27	4	108	
5	Very Good	6	5	30	

$$\text{Mean Score} = \frac{Total\ Score}{Number\ of\ Respondents} 3.90$$

Figure No : **4.2.1**

Figure Name : **Response on rating of most purchased site against other e-commerce sites**
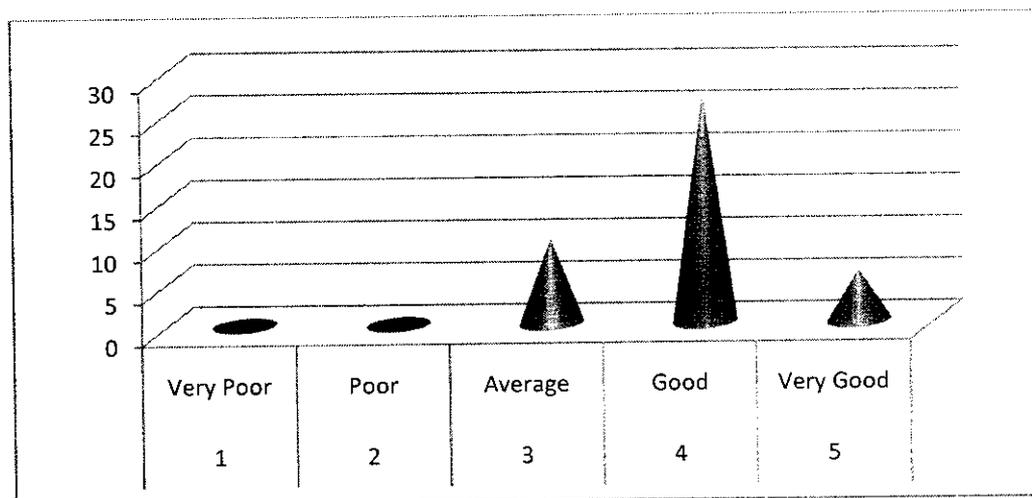
Interpretation

As 3.90 is the weighted average score out of 5, the rating of most frequently preferred site when compared to other e-commerce sites in India is good.

Table No : 4.2.2

Table Name : Response on overall satisfaction level of most purchased site

SI No.	Level of satisfaction	No of respondents	Weight	Total	Mean score
1	Highly Dissatisfied	0	1	0	
2	Dissatisfied	1	2	2	
3	Neutral	7	3	21	4.0
4	Satisfied	27	4	108	
5	Highly Satisfied	8	5	40	

$$\text{Mean Score} = \frac{Total\ Score}{Number\ of\ Respondents} = 4.0$$

Figure No : 4.2.2

Figure Name : Response on overall satisfaction level of most purchased site
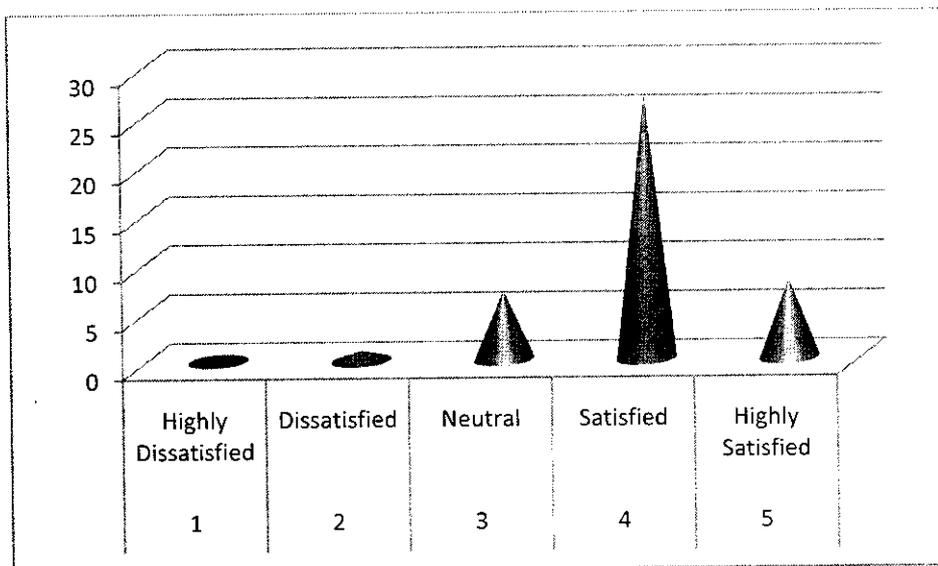
Interpretation

The overall satisfaction level of most frequently used site is normally satisfied in which the mean value is only 4 out of 5. And also the numbers of users who are highly dissatisfied are too low when compared to normally satisfied count. The main objective is to increase the satisfaction level of the users which will in turn reduce the customer attrition.

4.3 KARL PEARSON's COEFFICIENT OF CORRELATION

4.3.1 To test whether there exist significant correlation between performance of the website and satisfaction level of the user.

Table No : 4.3.1.1

Table Name: Degree of the performance of the website and satisfaction level of the user on the website.

Level of Satisfaction	Average Performance of Website	Overall Satisfaction
Highly Dissatisfied	0	0
Dissatisfied	0	1
Neutral	10	7
Satisfied	27	27
Highly Satisfied	6	8

Table No : 4.3.1.2

Table Name: Calculation for the correlation between performance and satisfaction level.

N	X	dx	dx^2	y	dy	dy^2	Dxdy
1	0	-8.6	73.96	0	-8.6	73.96	73.96
2	0	-8.6	73.96	1	-7.6	57.76	65.36
3	10	1.4	1.96	7	-1.6	2.56	-2.24
4	27	18.4	338.56	27	18.4	338.56	338.56
5	6	-2.6	6.76	8	-0.6	0.36	1.56
Total	43	0	495.2	43	0	473.2	477.2

x – Performance of the website

y – Satisfaction level of user

$\overline{X}$ =xΣn = 43/5 = 8.6

$\overline{Y}$ =yΣn = 43/5 = 8.6

dx = x – $\overline{X}$

dy = y – $\overline{Y}$

Coefficient of Correlation (r) :

$$r = \frac{d\Sigma dy - (dx.\Sigma y)/n\Sigma}{dx^2 -(\ dx)^2/\Sigma\ \ dy^2 - (\ dy)^2/\Sigma\ \ \ \Sigma}$$

$$r = \frac{477.2 - 0}{495.2 - 0 \ \sqrt{\ 473.2 - 0}\ \sqrt{}}$$

r = 0.98

Result: Since the coefficient of correlation is greater than 0.9and very close to 1, there is a huge relationship between the performance of the website and the satisfaction level of the user. So if the performance of the website is increased, surely the satisfaction level of the users will be also increased.

4.3.2   To test whether there exist significant correlation between the attribute which is liked least by the user and the inactiveness of the user in the website

Table No : 4.3.2.1

Table Name: Responses on the attributes for Like least in the most frequently used websites and Reason for inactiveness.

Attributes	Like least	Reason for Inactiveness
User Interface(appearance)	10	3
Speed, Performance & High Availability	10	2
Price and Offer	14	11
Payment Gateway	9	3

Table No : 4.3.2.2

Table Name : Calculation for the correlation between Like least and Reason for inactiveness.

n	x	dx	dx^2	y	dy	dy^2	Dxdy
1	10	-0.75	0.56	3	-2	4	1.5
2	10	-0.75	0.56	3	-2	4	1.5
3	14	3.25	10.56	11	6	36	19.5
4	9	-1.75	3.06	3	-2	4	3.5
Total	43	0	14.74	20	0	48	26

x – Least like

y – Inactiveness

$\overline{X}$ =x/n = 43/4 = 10.75

$\overline{Y}$ =y/n = 20/4 = 5

dx = x – $\overline{X}$

dy = y – $\overline{Y}$

Coefficient of Correlation (r) :

$$ r = \frac{\Sigma dx.dy - (\Sigma dx. \Sigma dy)/n}{\sqrt{dx^2 - (dx)^2/n} \sqrt{dy^2 - (dy)^2/n}} $$

$$ r = \frac{26 - 0}{\sqrt{14.74 - 0} \sqrt{48 - 0}} $$

r = 0.98

Result: Since the coefficient of correlation is greater than 0.9 and very close to 1, there is a huge relationship between the attribute that users like least in most frequently used websites and the reason for inactiveness. So if the attribute which is liked least by the user is improvised, then the inactive users can be made active.

4.4 REGRESSION COEFFICIENT & EQUATION OF REGRESSION LINES

4.4.1 To measure the average relationship and dependency between performance of the website and satisfaction level of the user.

Table No : 4.4.1

Table Name: Calculation for the regression between performance and satisfaction level.

N	X	Y	xy	x^2	y^2
1	0	0	0	0	0
2	0	1	1	0	1
3	10	7	70	100	49
4	27	27	729	729	729
5	6	8	48	36	64
Total	43	43	848	865	843

x — Performance of the website

y — Satisfaction level of user

$\bar{x}$ =x/∑ = 43/5 = 8.6

$\bar{y}$ =y/∑ = 43/5 = 8.6

Coefficient of Regression:

$$b_{yx}= \quad n \quad xy -\sum x \quad y\sum \quad \sum$$

$$nx\sum - (\quad x\sum^2$$

$$= \quad \frac{5 \times 848 - 43 \times 43}{5 \times 865 - (43)^2}$$

$$b_{yx} \quad = \quad 0.96$$

Regression equation of y on x is $\quad y - \bar{y} = b_{yx}(x - \bar{x})$

$$y - 8.6 = 0.96(x - 8.6)$$

$$y = 0.96\,x + 0.35$$

Result: The regression coefficient is positive and from the regression equation, it is clearly identified that the increase in xincreases y. From this it is proven that satisfaction level of the user depends on the performance of the website. So if the performance of the website is increased, surely the satisfaction level of the users will be also increased.

4.5 COST BENEFIT ANALYSIS

Cost benefit analysis and advantages of cloud computing when compared to the physical in-house servers are analyzed via a trusted source and computed for the benefit to the website proprietor. Below is a breakdown of costs for a small company with 25 users over the course of 10 years.

Table No   : 4.5.1

Table Name: Cost of physical in house server vs. cloud server

Physical in-house Servers & Desktops		Cloud Servers& Desktops	
Item	Cost	Item	Cost
Server	1,000,000	VM Server	600,000
SAN	1,500,000	San	1,800,000
Desktops	1,750,000	VM Desktops	1,200,000
Set-up & Installation	400,000	Set-up & Installation	125,000
Office Licenses	500,000	Office Licenses	0
Server Client Access Licenses	212,500	Server Client Access Licenses	0
Backup Licenses	100,000	Backup Licenses	0

Antivirus/Anti-spam Licenses	625,000	Antivirus/Anti-spam Licenses	0
Warranty	250,000	Warranty	0
IT Maintenance & Support	1,400,000	IT Maintenance & Support	2,500,000
Total Cost	Rs.7,737,500	Total Cost	Rs.6,225,000

Inference:

From the tables it is identified that the capital expenditure of the existing physical server infrastructure is too high. The overall cost of the physical infrastructure is very much higher than the cloud server. Over 10 years the expenditure of the physical in-house server is 7,737,500. If it is a cloud server then the expenditure would be 6,225,000. By this it is evident that the cost of cloud computing would have been reduced to 25% of the physical infrastructure cost.

CHAPTER 5

CONCLUSIONS

5.1   SUMMARY OF FINDINGS

- Most of the users use on line shopping website to browse products and catalogs, to compare between products, to find out the price of the products and also to purchase a product.

- On line shopping websiteshas good reputation with the online users when compared to other e-commerce sites.

- Most of the users have not purchased manyproducts from the website. They are really interested to browse the product and check prices.

- Users are really interested to purchase products only on the festival offer days.

- Most of the users have faced some discrepancies or failures in transaction due to the unavailability of server.

- The users of the websites are very much satisfied with the number of products and catalogs available online.
  .

- The users are highly satisfied with the user interface and the appearance of the websites.

- The price and offers available in the website attracts most of the users.

- Most of the users are satisfied with the payment gateway facility available in the websites.

- The shipping and delivery of products after purchasing from the website satisfies most of the customers.

- Response time of page loading, check out speed of the product and navigation from one page to another normally satisfies the majority of the users.

- According to the user's perspective, the most important factor of an e-commerce site is the price and offers available in the site.

- Increase in customer base or the customer attrition mostly depends on the price and offers available in the website.

- Most of the overall users are active users of their most purchased website.

- The high price of the products is the major reason for most of the user's inactiveness and variety of products and catalogs also contribute for the reason of inactiveness.

- The cost of virtual server is very much lower than the cost of physical servers.

5.2   SUGGESTIONS AND RECOMMENDATIONS

- The number of users visiting shopping websites is increasing in good numbers and by the same time the user attrition is also more when compared to the number of users entering websites.

- Shopping websites needs to increase its customer base by retaining its old customers in addition to the addition of new customers.

- Shopping websites is strong in its number of products and catalogs available and it is poor in its price and offers. So it needs to include wide range of price and offers in order to attract customer of all kinds.

- Performance of the websites also contributes for the customer attrition.

- Some of the possible ways of increasing the speed and performance is to add more number of physical servers or migrating the website to cloud infrastructure.

- To go for a physical server, the capital expenditure is very high. So it is better to move on to the cloud infrastructure where there is only operating expenditure

- The last ten year report clearly says that there would be a 25 % of cost reduction in the migration of web application to cloud computing

- For the further infrastructure to build the application, it is recommended to go the cloud computing server providers.

- It also increases the elasticity and scalability of servers.

- The cost of maintenance is comparatively very low which increases the profit.

- The return on investment is obtained very much sooner in the cloud computing model.

5.3   CONCLUSIONS

Most of the people started entering into e-commerce business as the number of users using the online shopping increases. In such perspective, shopping websites have a major contribution in Indian e-commerce business. The customer base of the website can be increased by retaining the old customers and bringing new customers by increasing the customer satisfaction.

The customer satisfaction can be increased by increasing the speed and performance of the website which is the key factor which decides the success rate of the website. The

performance of the website can be increased by increasing the number of servers in the website.

Instead of increasing the number of physical servers to the website, which needs additional capital expenditure, the company can go for the increase in number of virtual servers by migrating the web application to cloud which needs only the operating expenditure. This could increase the performance of the website to a great extent and increases the customer base as increase in the customer satisfaction.

By migrating the website from the physical infrastructure to the cloud infrastructure, the capital expenditure is completely obsolete and the maintenance cost is low when compared to the physical servers. The return on investment is earned too much faster in cloud computing. There is a huge cost reduction in the cloud servers when compared to the physical servers. The scalability of the server is very good as it increases the servers instantly based on demand of the servers. This model runs perfectly based on the operating expenditure

APPENDICES

Questionnaire:

1. Do you use Internet for Shopping? *

○ Yes

○ No

2. In general, you prefer to do your online shopping of *

☐ Groceries

☐ Cosmetics

☐ Books

☐ CD/DVDs

☐ Toys

☐ Clothes

☐ Electronic gadgets

☐ Movie/Travel Tickets

☐ Jewelry

☐ Online recharge

☐ Other: _____

3. How often do you use the internet for shopping every day?

○ Less than 1 hour

○ 1-2 hours

○ 2-3 hours

○ More than 4 hours

4. How many purchase transactions you have made online in the past 1 year? *

○ 1 to 5

○ 6 to 10

○ 10 to 50

○ more than 50

5. Have you done shopping in any of these websites? *

☐ www.bluebug.in

☐ www.flipkart.com

☐ www.ebay.in

☐ www.makemytrip.com

☐ www.bookmyshow.com

☐ www.bigbasket.com

☐ www.redbus.in

☐ www.firstcry.com

☐ www.myntra.com

☐ www.yebhi.com

6. In which of these websites you have done maximum purchases in the last 1 year? *Select One and remember this choice as next few questions will be based on the one selected here

○ www.bluebug.in

○ www.flipkart.com

○ www.ebay.in

○ www.makemytrip.com

○ www.bookmyshow.com

○ www.bigbasket.com

○ www.redbus.in

○ www.firstcry.com

○ www.myntra.com

○ www.yebhi.com

7. How do you rate your most purchased site when compared to other e-commerce sites in India? *

○ Very Poor

○ Poor

○ Average

○ Good

○ Very Good

8. How many purchase transactions have you made in the last 1 year in your most purchased site? *

○ 1 to 5

○ 6 to 10

○ 10 to 20

○ 20+

9. Have you ever faced any discrepancy or failure in transaction due to unavailability of your most purchased site server? *

◌ Yes

◌ No

10. Degree of satisfaction on the variety of products and catalogs available in your most purchased site *

◌ Highly Dissatisfied

◌ Dissatisfied

◌ Neutral

◌ Satisfied

◌ Highly Satisfied

11. Degree of satisfaction on the price and offers available in your most purchased site *

◌ Highly Dissatisfied

◌ Dissatisfied

◌ Neutral

◌ Satisfied

◌ Highly Satisfied

12. Degree of satisfaction on the time taken for navigation from one page to another in your most purchased site *

◌ Highly Dissatisfied

◌ Dissatisfied

◌ Neutral

$\circ$ Satisfied

$\circ$ Highly Satisfied

13. Degree of satisfaction with the response time of the page loading in your most purchased site *

$\circ$ Highly Dissatisfied

$\circ$ Dissatisfied

$\circ$ Neutral

$\circ$ Satisfied

$\circ$ Highly Satisfied

14. Degree of satisfaction on the checkout speed of a product in your most purchased site *

$\circ$ Highly Dissatisfied

$\circ$ Dissatisfied

$\circ$ Neutral

$\circ$ Satisfied

$\circ$ Highly Satisfied

15. Degree of satisfaction of the payment gateway options available in your most purchased site *

$\circ$ Highly Dissatisfied

$\circ$ Dissatisfied

$\circ$ Neutral

$\circ$ Satisfied

$\circ$ Highly Satisfied

16. Degree of satisfaction on shipping and delivery of products purchased in your most purchased site *

○ Highly Dissatisfied

○ Dissatisfied

○ Neutral

○ Satisfied

○ Highly Satisfied

17. Overall satisfaction level of your most purchased site *

○ Highly Dissatisfied

○ Dissatisfied

○ Neutral

○ Satisfied

○ Highly Satisfied

18. What do you think as most important factor to an online shopping site? *

☐ User Interface (Appearance)

☐ Speed, Performance & High availability

☐ Price and Offers

☐ Payment gateway

19. What do you like most in your most purchased site? *

○ User Interface (Appearance)

○ Speed, Performance & High availability

○ Price and Offers

○ Payment gateway

20. What do you like least in your most purchased site? *

○ User Interface (Appearance)

○ Speed, Performance & High availability

○ Price and Offers

○ Payment gateway

21. Are you still an active/regular user to your most purchased site? *

○ Yes

○ No

22. If you are not an active user, then what is the reason for inactiveness? *

☐ Poor user interface (appearance)

☐ Less number of products and catalogs

☐ Poor speed and performance

☐ High Price

☐ Less payment options

☐ Not Applicable

23. What do you suggest to your most purchased site to bring their inactive customers active again? *

☐ Improve user interface (appearance)

☐ Increase number of products and catalogs

☐ Improve speed and performance

☐ Reduce Price and increase offers

☐ More payment options

REFERENCES

Needs for an e-commerce website:
http://www.quality-web-programming.com/blog/the-growing-need-for-e-commerce-web-development/

Strategic planning in e-commerce:
http://www.ecommercepartners.net/Services/Ecommerce-Consulting/Ecommerce-Strategy.shtml

Cost Benefit analysis in Cloud Computing:
http://xyfon.com/house-servers-vs-cloud-servers

Cost Benefit analysis physical in-house servers:
http://xyfon.com/house-servers-vs-cloud-servers

Statistical Inference:
http://en.wikipedia.org/wiki/Statistical_inference