

Approach to Improve Quality of E-Commerce

Satish R. Billewar, D. Henry Babu

Abstract: - E-Commerce is the purpose of Internet and the web to conduct business. E-Commerce is the future of the businesses of 21st Century. But E-Commerce companies are facing big problems at the time of providing products to customers online. The problem is not about the quality of the products, but the information is not reaching to the customers easily and whatever information is available on the web sites of the companies that are not satisfying the traditional product purchase habit of the customer. Now the need arise to redefine the quality in the applications of the web sites as well as the implementation issues that become hurdle in E-Commerce business activities. The global and Indian E-Commerce sales statistics shows the internet penetration worldwide and E-Commerce Users World Statistics to address the reasons why the people have not accepted E-Commerce in India. The study addresses to various quality issues of the web sites which are neglected to fulfill the requirements of thee customers, and propose Total Quality Management (TQM) implementation as the best solution to sort out the issues.

Keywords: E-Commerce; E-Commerce Applications; Total Quality Management (TQM); Quality issues.

I. INTRODUCTION

Imagine a physical world where there are hundreds upon hundreds of branches of the same store. I have a branch in my neighbourhood tailored to my needs, and you have a branch in your neighbourhood tailored to yours. In the physical world this would be impossible; however, the movement toward E-Commerce (doing the work of commerce electronically), has produced business strategies that could never exist in the physical world. E-Commerce is the future of the businesses of 21st Century.

E-Commerce is the purpose of Internet and the web to conduct business. E-Commerce is the process of buying and selling of various products, services and information by businesses through the Internet. It deals with various kind of business concern, from retail site of the consumer, which includes auction. The main focus is to concentrate on business substitutes involving goods and services between various corporations as well as with consumers. E-Commerce is having so many benefits. But it is having so many quality issues also. Now the need arise to redefine the quality in the applications of the web sites as well as the implementation issues that become hurdle in E-Commerce business activities. E-Commerce web sites are finding the solutions.

We propose Total Quality Management (TQM) as the solution. TQM is defined as both a philosophy and a set of

guiding principles that represent the foundation of a continuously improving organization [1]. It is a customer driven philosophy wherein the stress is on customer delight. Its application to information technology, especially in E-Commerce, is a recent trend. TQM has a vast potential to generate the improvements in the process of E-Commerce. TQM focuses on meeting the needs of the customer. TQM is not inspection, but actually the prevention of defects. It involves everyone in the organization.

II. GLOBAL SCENARIO

a. Internet Users World Statistics :-

(*Data for Population and Internet Users is in Crore)

Table 1: Asia Vs. World Internet Usage AND Population Statistics.[3]

	US	Europe	Asia	Rest of World
Population	31.32	81.64	387.97	188.65
Internet Users	24.5	50.07	101.68	47.66
Penetration%	78.20%	61.30%	26.20%	25.27%
Users %	11.60%	22.1	44.8	21.5

The success of the E-Commerce is depend on the internet usage of the world population by IMRG Report[3] on the regional basis.

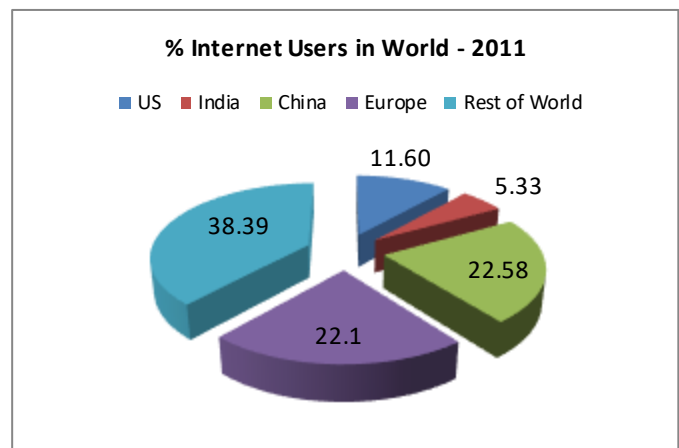


Figure 1: India Vs. Asia Internet Usage AND Population Statistics on 31-12-2011[4].

So the percentage of the Indian internet users to the Asian internet users is 11.90% and if we compare this with the total world internet users then it is just 5.33%[4].

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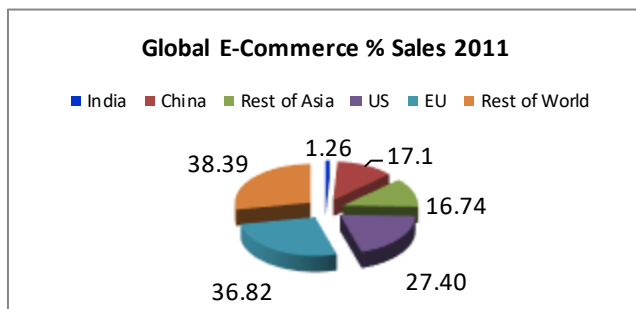


Figure2: India Vs. World E-Commerce Sales Statistics on 31-12-2011[4]

III. INDIAN SCENARIO

In India, E-Commerce survey is done by IAMAI Report [11] which shows following results.

(Figures in Crores. Percentages indicate share of the overall market size)					
Year	Dec 2007	Dec 2008	Dec 2009	Dec 2010+	Dec 2011+
Total Market Size	8,146	14,030	19,688	31,598	46,520
Online Travel Industry	6,250 (77%)	10,500 (75%)	14,953 (76%)	25,258 (80%)	37,890 (81%)
Online Non-Travel Industry	1,896 (23%)	3,530 (25%)	4,735 (24%)	6,340 (20%)	8,630 (19%)
- e-Tailing	978	1,120	1,550	2,050	2,700
- Digital Downloads or Paid Content Subscription	238	290	435	680	1100
- Financial Services *		1,200	1,540	2,000	2,680
- Other Online Services (incl. Online Classifieds)	680	920	1,210	1,610	2,150

* Financial Services were not calculated in the years prior to 2008. + Estimated Figures

Table(2): Indian E-Commerce sales distribution of last five years.

The figure on the IAMAI (Association of India) report, March 2011[11], clearly states that the online travel industry accounted for 81.45% of the total e-commerce market in India in 2011 and remaining 19% share is constituted of non-travel businesses such as e-Tailing (electronic retailing), digital download, paid content subscription, financial services, online classifieds[14], etc.

IV. E-COMMERCE QUALITY ISSUES

The above values give the clear cut picture that something is going wrong in the implementation process of E-Commerce in India. Why E-Commerce is not able to create importance in the mind of Indian people? Do they expect some quality issues to resolve to accept E-Commerce or something more than that? The following section discuss these quality issues based on some major types of E-Commerce.

Types of E-Commerce:

There are five basic types of E-Commerce:

1. B2C - Business to Consumer
2. B2B – Business to Business
3. C2C - Consumer to Consumer
4. B2E - Business to Employee
5. C2B – Consumer to Business

1. Business to Consumer (B2C)

B2C is the model taking businesses and consumers interaction. It is the indirect trade between the company and consumers. The basic concept of this model is to sell the product online to the consumers.

Example: Amazon.com

Quality Issues:

1.1 Information asymmetry :

Defraud money from customers without sending out goods, or the good quality is less than a pre-agreed standard[10]. The TQM sub-characteristics accuracy allows how well software achieves correct or agreeable results and data on web sites.

1.2 Payment Issues:

Many time retailers force to pay first before delivery of the product because cash-on-delivery is not possible every time. So the complete risk shifts to customer. The TQM sub-characteristics Flexibility propose the Atkinson’s “Flexible firm” model[23] that can solve the payment issues of customers.

1.3 Security Issues:

When customer provides his credit card information, this can become one of the risk to the customer because anybody can figure it out from his credit card number[7]. The Deming Method[2] of TQM is based on fourteen obstacles to productivity and is being adapted as Total Quality Management of Security (TQMS).

1.4 Privacy:

Collecting personal information through registration which is unnecessary for transaction and business[17]. The TQM sub-characteristics Client Support propose Privacy Preferences Project (P3P)[21] in with “Personal Consumer Information Cost” (PCIC) index.

1.5 Time of Delivery:

It would be nice to receive an item when customer plans – not just when the retailer plan to ship it and even the customer don’t get the product on time also. The TQM characteristics Time Behavior propose implementation of time attributes like latency, throughput, processor time requirements, real time response and so on.

2. Business to Business (B2B)

B2B is the largest form of E-commerce[5]. This model defines that Buyer and seller are two different entities. It is similar to manufacturer issuing goods to the retailer or wholesaler.

Example: Dell computers.

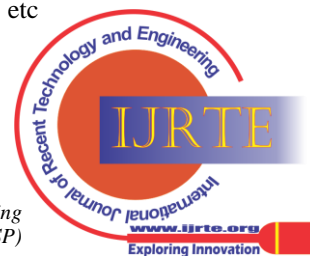
Quality Issues:

2.1 Strategic Change:

A change in a firm’s business system can be an operational or a strategic process. A balance of both is necessary[18]. TQM propose the Changeability Model[24] for how to implement the change in organizations.

2.2 Lack of cooperation:

Many managers are quick to note the minor problems—even those with obvious causes became conflicts individuals[12] and the linked firms becomes uncooperative. TQM provides the formula to calculate the Reliability[22] for correcting quality cost areas by prevention, appraisal, internal failure, external failure, morale, etc



2.3 Competitive or defensive behaviors:

When B2B personnel detect costly problems, they often engage in competitive or defensive behaviors rather than taking a more collaborative or problem-solving stance[18]. TQM suggest understandability and learnability as a problem solving approach in day to day business activities.

2.4 Social conflicts:

Social problem we find exists entirely between individuals[12]. An example of such interpersonal problems is when two businesses having cultural and social norms. TQM adaptability model gives the guidelines to solve the social and cultural conflicts.

3. Consumer to Consumer (C2C)

C2C Consumers are no longer totally reliant on corporations and are increasingly looking to conduct their own business transactions. It helps the online dealing of goods or services among people[16]. Example: eBay's auction service

Quality Issues:

3.1 C2C platform is likely to be misused:

Any C2C platform is likely to be misused. It is true that in the interest of Electronic Commerce, the C2C auction sites are not to be discouraged nor targeted by Police. TQM suggests digital signature, authentication and other solutions in client support sub-characteristics[2].

3.2 Taxation:

Tax authorities world over are examining the tax implications of E-commerce transactions and resolving mechanisms to tax such transactions[16]. TQM suggest the standardization in every area of E-Commerce by sub-characteristics in the products like maturity, installability, adaptability and replaceability.

3.3 Lack of Due Diligence:

One of the strong point of the current law which requires "Due Diligence ie. making sure you get what you think you are paying for"[16]. Suitability and accuracy in data can make the services prominent with the help of analyzability and testability models[25] to identify the root cause of failure of customer expectations.

4. Business to Employee (B2E)

B2E Portal is an interactive "self-service work environment". The service will offer direct access to a string of relevant tools and information, including workplace communication, training services, financial services, travel services, industry news, stock quotes, and e-commerce[19].

Quality Issues:

4.1 Narrow Mindset:

The success of B2E Portal is depend on the companies amount of required freedom to the employees[8]. TQM provides the list of benefits of the organization through the benefits provided to employees as customers. Efficiency Characteristics of TQM provide guidelines how to improve the efficiency of the employees for the benefit of the organization with the satisfaction of both.

4.2 Absence of theme that employee is the first customer of business:

Companies can't expect to purchase products if their own employees don't purchase it. The flexibility characteristics specifies the importance of the employee as the first customer as well as it suggests some to form the policies by considering the employees as internal customer.

4.3 Absence of evaluation method to check the usage of employee portal:

When organization invest on B2E implementation[8], it thinks about the return on investments out of it and as there is no method evolve to measure the benefit in monetary terms. "Personal Consumer Information Cost" (PCIC) index[21] helps to find out the Return On Investment (ROI) of Portal.

5. Consumer to Business (C2B)

A consumer posts his project with a set budget online and within hours companies review the consumer's requirements and bid on the project. The consumer reviews the bids and selects the company that will complete the project.

Quality Issues:

5.1 Deficiencies in buying confirmation Process:

Billing is not straightforward without creating a company. For companies to pay individuals is not straightforward either. The purchase process performance sub-characteristics of TQM relates for assessing, controlling and predicting the extent to which the web site product in purchase procedure with continuous improvement in performance.

5.2 Varied languages, currencies and locations:

Governments always concern on the outflow of foreign currency. Social factors like influence of language and symbols used on site also creates impact on the site visit and purchase decision of the customer. TQM suggests the learnability can result in reducing errors, defects, waste, and related costs.

5.3 High fees for low payments:

1) The options to pay the fee, but that are very expensive. [7]. Interoperability suggests to create a tree of companies online which is very similar to banks where we can make the transactions through any ATM rather than getting the services from same banks.

V. CONCLUSION

E-Commerce is considered an excellent alternative for companies to reach new customers for business. A business that is run over the Internet is like any other business when it comes to effective organization, product quality, customer satisfaction and employee relations issues. The efforts should start from finding out the quality norms in E-Commerce. TQM is the best solution to understand the problems and the way how to solve it.

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