Chapter 1

INTRODUCTION

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INTRODUCTION

Consider a world where hundreds and thousands of branches of the same store. Every neighborhood tailored to all which would be impossible in the physical world. However, the movement toward E-Commerce (is performing the work of commerce electronically), to produce business strategies that has become the future of the businesses of century.

E-Commerce is the purpose of internet and the web to conduct business. It is the process of purchasing and selling different products, services and information by businesses through the internet. The main focus is to concentrate on business substitutes involving goods and services between various corporations as well as with consumers. Though E-Commerce has so many benefits, it has many quality issues as well. The executives (service providers) and the consumers both have their own quality problems. Now the need arises to provide common solutions 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. Hence E-Commerce web sites are in a dire need to provide the solutions.

The study proposes Total Quality Management (TQM) as the solution. Total Quality Management is a combination of a philosophy and its guiding principles that represent the basis for which is a customer driven philosophy wherein the stress is on customer delight. Recently it is considered as a one of the most important tool for E-Commerce. TQM has a vast potential to generate the improvements in the process of E-Commerce. It addresses the need of the customer. It is the prevention, not the inspection of defects. It involves everyone in the organization.
E-Commerce Definitions

**E-Commerce**: It is the concept based on communication, commercial, business processes and services which involved buying and selling of the information by using computer networks.

**Types of E-Commerce**

**Business to Customer (B2C)**: This is the transaction between the organizations involved in businesses and the customers.

**Business to Business (B2B)**: This is the transaction between two or more organizations involved in businesses which work as partners.

**Customer to Customer (C2C)**: This is the transaction between individual customers involved in different motives in one transaction.

**Customer to Business (C2B)**: This is the transaction where in individual sales the services and products to the businesses.

**Business to Employee (B2E)**: This is the transaction between the organizations and employees where companies creates internal networks to provide products and services to their employees.

**History**

1. **EFT (Electronic Fund Transfer)**

   This was a very limited concept where the businesses were involved in just transferring the funds.

2. **EDI (Electronic Data Interchange)**

   This is the concept from where the businesses started to send the documents.
3. **WWW (World Wide Web)**

This is the concept when businesses started to think to cover maximum benefits for human life. E-Commerce was the basis motive behind it. This concept created the healthy competition among businesses and started getting the benefits to customers.

**E-Commerce Applications**

E-Commerce Applications are:

**Emails:**
This is one of the most important methods to communicate through messages.

**Online Banking:**
The concept based on financial & banking transactions.

**Teleconferencing:**
This has become the most important tool to exchange the information live among the people for business and study purpose.

**E-Tickets:**
Purchasing the airline or railway ticket through website or mobile has saved lot of time and created transparency in the transactions.

**Online shopping:**
This is the application where the customers can directly purchase goods and services on internet without the help of any middle services.
1.1 Global Scenario

For many years, the E-Commerce sector of business around the world has been dominated by the US, Japan and Germany [3]. These countries are the long established and old money creators in technological and financial revolutions. The citizens of these countries are also thirsty for technological development and improvement of usability of the technology for human beings.

Satisfying the demand of newly created economies that are the direct result of and impacted by the technology is an ongoing challenge even in the advanced societies that invented the technologies. But the developing countries don’t have planning to implement technology in countries as well as they don’t get support to establish the system for the technology.

**Geography, Culture, Politics, Educational Systems**

Underdeveloped countries and their cultures are facing changing environment of conducting business. They are facing several challenges for providing the solutions to the technologies and E-Commerce has become dream for the success of the business.

Lack of education, religious reticence and hesitancy due to other unforeseen forces are inherent issues that must be considered in seeking a comprehensive approach in eliminating barriers to the installation of electronic commerce in these societies.

Nations with geographic locales that are still without the minimum luxuries taken for granted in the western world such as basic telephone service are poised for changes in the delivery and dissemination of information.
Global Divided Technology and Unequal Growth

Unequal growth of E-Commerce internationally is a problem that must be overcome in order to bring technology and E-Commerce to underserved countries. Nevertheless the implementation of new technologies in the developing country like India become a serious issue of sensitivity for politics, educational system, and especially for culture.

1.1.1 Internet Users World Statistics

The achievement of the E-Commerce relies on the success of the internet. Internet usage of the world population on the regional basis is as mentioned below:

The Internet Users World Statistics estimated 2,26,72,33,742 internet users worldwide by the end of 2011. This should around 32.7% of the population globally and a 528.1% rise compared to 2000.

<table>
<thead>
<tr>
<th>Population</th>
<th>US</th>
<th>Europe</th>
<th>Asia</th>
<th>Rest of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Users</td>
<td>24,50,00,000</td>
<td>50,07,23,686</td>
<td>1,01,67,99,076</td>
<td>47,66,43,434</td>
</tr>
<tr>
<td>Penetration%</td>
<td>78.20%</td>
<td>61.30%</td>
<td>26.20%</td>
<td>25.27%</td>
</tr>
<tr>
<td>Users %</td>
<td>11.60%</td>
<td>22.1</td>
<td>44.8</td>
<td>21.5</td>
</tr>
</tbody>
</table>

Table 1: ASIA Vs. WORLD INTERNET USAGE AND POPULATION STATISTICS ON 31-12-2011 [4]

Out of the total internet users of the world, 45% population is Asian. But the contribution of the Indian population is very less. 2.3 billion internet users were identified (2,27,97,09,629) globally in the first four months as Internet World Stats data updated on
31st March 2012. China stands on the top with 513 million internet users in terms of maximum users.

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
<th>Japan</th>
<th>Rest of Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1,33,67,18,015</td>
<td>1,18,91,72,906</td>
<td>12,64,75,664</td>
<td>1,22,73,74,292</td>
</tr>
<tr>
<td>Internet Users</td>
<td>51,31,00,000</td>
<td>12,10,00,000</td>
<td>10,12,28,736</td>
<td>28,14,70,340</td>
</tr>
<tr>
<td>Penetration%</td>
<td>38.40%</td>
<td>10.20%</td>
<td>80.00%</td>
<td>22.93%</td>
</tr>
<tr>
<td>Users %</td>
<td>50.50%</td>
<td>11.90%</td>
<td>10.00%</td>
<td>27.60%</td>
</tr>
</tbody>
</table>

Table 2: India Vs. ASIA INTERNET USAGE AND POPULATION STATISTICS ON 31-12-2011[4]

The study identified that in the group of BRIC countries, India had the highest growth in unique website visitors between 2011 and 2012, with 41%, more than the growth rate of Russia. And India's online growth still has some level to go before it hits a ceiling, as most of its online sectors states under index as compared to worldwide averages.

The worldwide market for facts and information technology is expected to increase 2.3 trillion Euros in 2010. In the crisis year of 2009, sales reduced worldwide by 1.6%. it indicates that the high-tech markets worldwide are recovering motivationally towards the growth. The countries China, India, Brazil are the driving countries whose high tech markets succeeded in for strong gain when the other countries are in crisis.

But for Russia, which is one of the BRIC country was least affected worldwide economically and financially. The China gained 11%, which is nearly 33.6 billion Euros in 2010. India gained 10% in IT, which is nearly 14 billion Euros in 2010. But if we compare this with European market, it is just increased by 0.2%.
Figure 1: Internet Penetration VS Internet Users in the World Ratio

So the percentage of the Indian internet users to the Asian internet users is 11.90% and if compares this with the total world internet users then it is just 5.33%.

Internet Users of India = 5.33%
1.1.2 E-Commerce Sales World Statistics

The Global E-Commerce is increasing by 19% every year [5]. The following graph shows the E-Commerce sales of last five years as well as status forecast of next two years. US Census report May-2012[6] and U.S. Census Bureau News Aug-2012 [7], clearly give the details of the total E-Commerce sales worldwide and highlights statistics of sales distribution among every sector of E-Commerce.

Figure 2: Regional Percent Internet Users in the World

% Internet Users in World - 2011

- US: 38.39%
- India: 11.60%
- China: 22.1%
- Europe: 22.58%
- Rest of World: 5.33%
This figure 3 very well explains the increasing importance of E-Commerce in world business. The Forresters Research Feb2011[8] explained the current scenario as well as future growth of E-Commerce. Econsultancy’s Internet Statistics Compendium[9] and eMarketer Report Feb 2012 and Goldman Sachs[10] have taken more efforts and found out the distribution on regional basis.

As per the Internet E-Commerce World statistics done by U.S. Commerce Department, Jupiter Research reports and Goldman Sachs has done same statistics for Europe and it compares with Asia and rest of the world. Observing the Global E-Commerce sales distribution on region basis then it is possible to get the following distribution.
Figure 4: Global E-Commerce Sales Forecast on regional basis

Figure 5: Regional Percent Global E-Commerce Sales
The graph very well explains that Europe has performed major role for in the growth of E-Commerce and US people are on second position for taking the benefits of E-Commerce from the immergeence of this concept.

But the status of Asia and rest of the world which has 83% population of the world, the picture is very poor. The figures show that the past of both Asia and rest of the world for the sales of E-Commerce was very bad but still can hope from Asia which is overcoming the crown of E-Commerce in the year 2012. So this may be good news for all Asian people, but not for the Indian people. To know the reason one has to look on the Indian E-Commerce Statistics.
1.2 Indian Scenario

Almost a decade back dot-com businesses was showing downfall trends and during those time, no commercial activities were the part of online activities. was happening on internet. And without any commercial activity internet means nothing. Since those early experiments, the growth of E-Commerce has been slow. Though this industry is growing at a very fast pace, if we compared with the global scenario, still Indian E-Commerce has a long way to go and its infrastructure, practices and so many quality issues are in its infancy stage.

![Global E-Commerce % Sales 2011](image)

**Figure 6: Indian Percent to Global E-Commerce Sales**

Internet and Mobile Association of India (IMAI) explains that India’s E-Commerce market has grown over 550% in past 5 years alone[11][12]. But it has seen that the statistical result of Indian E-Commerce sales is just 1.26% of total world E-Commerce sales of the world. So there is a dark side of the progress also.
In present environment, technological development in the field of computer technologies and telecommunications has made networks through computers an integral part. It provides so many benefits to customers and facilitates more choices of the products. This helps to save the time on travelling, logistics and provide millions of choices just sitting at one place on computer. It also gives benefits for online tickets for hotels, railway and aeroplanes. As per industry experts, this industry will increase exponentially in times to come.

E-Commerce has plenty of opportunities in the developing country like India [13]. But in India, E-Commerce is in a very beginning phase. The ever increasing low cost of computers helping to increase competitive market where 288 million middle population equals to entire population of US [12]. Many major Indian portals have shifted in E-Commerce. Many new sites are selling distinct range of products like E-tickets, groceries, computers, etc. Now stock exchange has also started online which is the true arrival of E-Commerce in India.

But there is also a negative side where E-Commerce is facing so many challenges. Indian E-Commerce is still struggling with variety of transaction systems where uniformity is required. The large group of population of India which stay in small towns and rural regions are still in old age.

In 1997, the department of Information Technology of ministry started to work on setting common platform to work [14]. E-Commerce in India, is facing so many problems for regulation and legal framework which is nothing but the back bone of true system. There are variety of reasons the E-Commerce has become challenge to companies and the organizations in India.

According to the eBay Census Guide 2011[15] for Indian E-Commerce scenario, it has been found that India has over 2,471 E-Commerce Hubs. These hubs are spread all over in India. Every city, town, villages are now covered to provide E-Commerce and its applications. Whereas, lifestyle product, category dominates the global trade.
According to eBay Census, technology has 44% of contribution to total E-Commerce in India. The contribution of lifestyle is 35%. But see the lifestyle percentage on global level, then it is almost 64% and the media is on second level. This shows a huge difference in the type of work and choice of interest in India and west.

In India, E-Commerce survey is by IAMAI report [16],[11], shows following results.

![Figure 7: Indian E-Commerce Sales Forecast](image)

Next table shows Indian E-Commerce sales distribution of last five years.

### Table 3: Indian Net E-Commerce Market Size

<table>
<thead>
<tr>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Market Size</td>
<td>8,146</td>
<td>14,030</td>
<td>19,688</td>
<td>31,598</td>
<td>46,520</td>
</tr>
<tr>
<td>Online Travel Industry</td>
<td>6,250 (77%)</td>
<td>10,500 (75%)</td>
<td>14,953 (76%)</td>
<td>25,258 (80%)</td>
<td>37,890 (81%)</td>
</tr>
<tr>
<td>Online Non-Travel Industry</td>
<td>1,896 (23%)</td>
<td>3,530 (25%)</td>
<td>4,735 (24%)</td>
<td>6,340 (20%)</td>
<td>8,630 (19%)</td>
</tr>
<tr>
<td>- eTailing</td>
<td>978</td>
<td>1,120</td>
<td>1,559</td>
<td>2,050</td>
<td>2,700</td>
</tr>
<tr>
<td>- Digital Downloads or Paid Content Subscription</td>
<td>238</td>
<td>290</td>
<td>435</td>
<td>680</td>
<td>1,100</td>
</tr>
<tr>
<td>- Financial Services *</td>
<td>420</td>
<td>1,200</td>
<td>1,540</td>
<td>2,000</td>
<td>2,680</td>
</tr>
<tr>
<td>- Other Online Services (incl. Online Classifieds)</td>
<td>680</td>
<td>920</td>
<td>1,210</td>
<td>1,610</td>
<td>2,150</td>
</tr>
</tbody>
</table>

* Financial Services were not calculated in the years prior to 2008. *: Estimated Figures
The E-Commerce turnover was Rs 46520 crore in the year of 2011. The above chart shows all E-Commerce details from year 2007 to 2011. The growth in E-Commerce business clearly implies the growing number of internet users. The contribution of online travel industry is 80% (Rs 25298 crore) in 2010 and expected to touch 81% (Rs 37890 Crore) in 2011 of total E-Commerce market and is building the confidence in the users. It includes travel bookings of air lines, railway, bus, and hotel.

![India E-Commerce Sales Distribution in 2011](image)

**Figure 8: Indian E-Commerce Sales Distribution**

The above figure on the IAMAI (Association of India) report [16], eBay Census Guide 2011 [15], clearly states that the online travel industry accounted for 81.45% to overall contribution to E-Commerce in India in 2011 and remaining 20% share is because of non-travel businesses like financial services, E-Tailing, Online Classifieds, digital downloads, etc.

This E-Commerce market share from last 5 year is almost same. And it has not changed during last year. However, the online users in India are showing interest and they are having willingness to purchase over the internet. This clearly indicates that the people using internet are increasing. But the most disappointing thing is, online transactions are limited to a certain categories like online classifieds, gaming subscriptions, online reservations of travel systems like air line, railways, etc.
1.2.1 Online Travel Industry

The biggest percentage of the E-Commerce is Online Travel Industry. The strongest website in this sector is IRCTC which is run by Indian railway. The other websites like Yatra, Makemytrip, Clearship are the examples of private sector [17].

![Online Travel Industry](image)

**Figure 9: E-Commerce Sales Forecast in India – Online Travel Industry**

If we see the graph of the online travel industry from 2007 to 2011, then it shows that it has increased sharply from Rs. 6350 crore to Rs. 38000 crore. Out of this, airline travel industry constitutes 63% and online railway ticket system constitutes 28% share.
Problems associated with online travel industry:

1. Limited Infrastructure:

Low penetration of the broadband and the huge area of Indian territory, has become hurdle to build the strong infrastructure to online travel industry. Still the penetration of PC is low in India, which is also an important roadblock to overcome.

2. Doubt of paying online:

In the developing country like India, paying online for ticket before some days is considered as one risk. People prefer to stand in the queues for hours rather than spending few minutes on online pay.

3. Limited items in the list:

Low items and low penetration of internet hampered the other sectors like hotel booking. Some big hoteliers also not prefer to offer the rooms online because the online services hinder the options of the customers. So the share of the hotel booking is just 10% to of total booking.
1.2.2 E-Tailing

E-Tailing – Right now the e-tailing where the items like home appliances, personal products, electronic products worth 2700 crore and it is expected to increase by 36% in next year.

![E-Tailing (in INR Crores)](image)

**Figure 10: E-Commerce Sales Forecast in India – E-Tailing**

E-Tailing is nothing but selling the items of customer needs online like furniture, CD, jewellery, pen drives, T-shirts, mobiles, etc.

There are two types of market places - Online Auctions and Online Retailers[17]. The online auction is the market place where anybody can sell or purchase very small types of products like cassettes, CDs, etc. Now it is not limited to high cost products. The online retailers have also become intermediary like physical delivery of the products through third party.
Problems associated with E-Tailing:

1. **Absence of physical touch experience:** Indian customers are very conscious about the experiencing each every feature of the product. They have the habit to make sure everything of the product and don’t want to take the risk even if its cost is very less. In addition, if they decide to purchase something online, they cross verify the price of the products by visiting various sites. The customers make sure the quality of the products after the delivery of the products and then they use to pay for the product.

2. **Pressures in competitive market:** As India is the emerging market and the Indian population has started to take the benefits of new technologies, the huge number of companies has started their businesses. But India is still like one oasis where the internet customers are scattered in large geography, variety of demands and different culture compare to west. Still India don’t have basic infrastructure which can help to competitive market.

3. **Product Purchase habit on seasons:** India is a country of large number of seasons like Rakhi, Diwali, Mother’s Day, Friendship Day, Valentine’s Day. It also creates large number of choices of the products on the basis of the months like May is the summer season which choices are completely different than the December which is winter season. This always use to change the purchase habit of the customers during whole year.

4. **Frauds in Online Purchase:** As India is an emerging market, large number of fake companies has also started their businesses which has created the ambiguity in the confidence of the purchase habit of the customers. So the customers prefers to purchase the products physically if the same product is available easily and in the same price.

5. **Absence of standard in time to delivery of products:** There can be so many reasons by which the customer can’t get the product of his choice, but there are so many reasons by which the customers can’t get the product on time. The supply chain is the biggest problem to deliver the products on time.
1.2.3 Online Financial Services

One of the important segments is online financial services which includes bill payments, net banking, insurance, etc. Though the share of this service is just Rs. 2860 crores, but it is expected to grow huge in future [18].

Figure 11: E-Commerce Sales Forecast in India – Online Financial Services
Problems associated with Online Financial Services:

1. **Online Digital Signatures:**

In the country like India, web sites use digital signatures everywhere in the financial services. This is understandable that the signatures are required for the confirmation of the service avail by the customer like insurance, but this should be use to show that the complete risk of all transactions are shifted to customers only. This creates insecurity for the benefits the customer is expecting in future especially for insurance.

2. **Protection of the data:**

Collecting and selling the personal data of the customers has become the business now. The companies try to sell the products on the basis of the personal information of the customers. This leads to offences like hacking and misuse of the data. Indian government has also formed the Data Protection Act. But still that is available on the paper and having no strong support and implementation itself by the government.

3. **Risk Allocation:**

One of the major consideration during the transaction is, weather company should accept risk associated in the transaction or it try to shift the risk to customers. When the companies don’t have very limited number of customer and they are also the new players of this concept, the complete risk becomes protective to customers.
1.2.4 Online Classifieds

Online Classifieds is a very useful concept of E-Commerce where the users can place their CVs on the websites like Naukri.com and these websites also become the bridge between the companies finding the best employees as well as the employees waiting for best future opportunities. This service also helps to find the best life partner as per the choice. The estimated contribution of the online classifieds is Rs. 2200 crore and it is increasing rapidly [17].

Figure 12: E-Commerce Sales Forecast in India – Online Classifieds
Problems associated with Online Classifieds:

1. Fail to create trust on online data:

The traditional media like newspapers provides data with strong performance. The local newspapers are the most trusted one where the customers immediately meet and cross verify the expected partner. Also local newspapers help to get the job on local level. Online media has not only failed to provide the first level expectation of the customer but also the fraud cases has decrease the trust of data provided.

2. Type of Payment:

As the offered services are charging some money across the benefits of the customers, the money drives away by various free offers given by big market holders. It is also mentioned by the industry experts that you can’t charge money to customers just for posting resume on their web sites.
1.2.5 Digital Downloads

Digital downloads are becoming one of the major service provided to the customers. Digital downloads are the contents which can be downloaded by using mobile or computers. It also includes sharing the information and data among people through WEB and WAP based networks[17].

![Digital Downloads (in INR Crores)](image)

**Figure 13: E-Commerce Sales Forecast in India – Digital Downloads**

The use of digital download is increasing rapidly and it is almost Rs. 1100 crore per year. The number of subscribers of this service are also increasing and giving vide variety of services to the customers like music, wallpapers, ringtones, pictures, etc. This service has created so many opportunities in the market. A person having a quality like musician, cartoonist, game maker can get the benefit of spreading his skill to all over the globe without support of any strong support of respective businesses [17].
Problems associated with Digital Downloads:

1. Piracy:

Widespread piracy is the biggest factor undermining the growth of the digital music business[19]. The music industry sees cooperation from online intermediaries, such as internet service providers (ISPs), advertising, media, search engines and significant progress was made with all these parties in 2011.

2. GPRS or WAP enabled mobile:

Anyone of the one can directly download the contents with the help of WAP or GPRS enabled handsets and SIM cards. Uploaded content on the web is very easy to misuse. In some of the cases, the rules and the regulation of the web also become helpless to copyright or other kind of rights.
1.3 Scope of Research

Till date, E-Commerce is dominated by only few developed countries like US, Japan and Germany. Now developing and underdeveloped countries are facing the rapid and ever changing environment of conducting business in the 21st century. E-Commerce which is pervaded by internet evolution is the future of all these nations. The number of internet users in India is 5.33% of total internet user population of the world with only 1.26% of total E-Commerce sales of the world. These facts clearly indicate that something is wrong in the implementation or approach towards E-Commerce in India.

The present study is focused on identifying the reasons for lower E-Commerce penetration levels, various quality issues in the E-Commerce industry, understand the role of employee and exploring Total Quality Management (TQM) as an effective tool to address various issues in the industries. The findings of the study and subsequent recommendations can help various stakeholders of the E-Commerce industry Customers, Public, Government, Managers, Employees and other people who are directly or indirectly affect the business. This study can also become basis for other researchers involved in this area.