

**UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS**

and

**INTERNATIONAL CENTER FOR PROMOTION OF ENTERPRISES
LJUBLJANA**

MASTER`S DEGREE THESIS

**IMPACT OF ELECTRONIC MARKETING
THE CASE STUDY OF M S T C LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)**

Ljubljana, September 2009

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Author's STATEMENT

I, Arumugam Rajamanickam, hereby certify to be the author of this Master's thesis, which was written under mentorship of Prof. Vesna Zabkar and in compliance with the Act of Authors' and related Rights- Para. 1, Article 21. I herewith agree this thesis to be published on the website pages of ICPE and the Faculty of Economics.

Ljubljana, September, 2009.

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INTRODUCTION

Description of the research problem

The problem to examine here is "Is electronic marketing making an impact?." Impact here means the consequence or effect of an instructional activity, innovation or program. It is the measure of change in the outcome or the result of an activity. In this study we would analyze the impact of electronic marketing if at all it made and what type of impact it is making with a special reference to MSTC LIMITED, a government of India enterprise functioning under ministry of steel. The scope of this study will be restricted to business-to-business (B2B) transactions of electronic auctions, transaction in industrial input, customer relationship management (CRM), marketing and sales.

Theoretical background

Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders (AMA, 2007). Electronic marketing is essentially a part of marketing. So the place to begin defining electronic marketing is to consider where it fits within the subject of marketing.

Therefore electronic marketing (E-marketing) by its very nature is one aspect of an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders. As such an aspect, electronic marketing has its own approaches and tools that contribute to the achievement of marketing goals and objectives.

This also helps us to differentiate between electronic marketing and electronic commerce. Electronic commerce (E-commerce) is defined as the process of buying, selling or exchanging products, or services or information via computer network (Drucker, 2002). However, with the arrival of mobile technologies such as personal digital assets and third generation mobile phones, as well as interactive television, both terms tend to be stretched to include these new media technologies. While talking about e-commerce, we can not ignore the importance of m-commerce. Mobile commerce (M-commerce) is the use of mobile services to interact and transact the business (Sinha, 2007). Mobile commerce is frequently referred as subset of all e-commerce. Mobile subscribers can get access to internet immediately without any plug in. Mobile commerce is rapidly becoming an easy and affordable channel for reaching and attracting the customers. On the other hand, one can visualize subtle difference between electronic marketing and digital marketing. For example digital marketing is achieving marketing objectives through applying digital technologies whereas electronic marketing is

achieving marketing objectives through use of electronic communications technology (Chaffey, 2006).

The internet has a number of tools to offer to the marketer:

- A company can distribute via the internet, e.g. Amazon.com,
- A company can use the internet as a way of building and maintaining a customer relationship, e.g. Dell.com,
- The money collection part of a transaction could be done online, e.g. Electricity and telephone bills,
- Leads can be generated by attracting potential customers to sign-up for short periods of time, before signing up for the long-term, e.g. which.co.uk,
- The internet could be used for advertising, e.g. Google Adwords,
- Finally, the web can be used as a way of collecting direct responses, e.g. as part of a voting system for a game show.

There are two ways of looking at plan for e-marketing:

- An existing organization may embark upon some e-marketing as part of their marketing plan,
- An organization trades solely on the internet and so their marketing plan focuses purely on e-marketing.

The marketing plan in either case is the next step, whether focused upon electronic marketing or all marketing. The next is to focus upon a tailor-made e-marketing plan which confirms to the acronym AOSTC (Kotler, 2004):

- A-Audit - An audit of internal strengths and weaknesses, an external opportunities and threats.
- O - Objectives - smart electronic marketing objectives.
- S - Strategy – electronic marketing strategies.
- T - Tactics - an electronic marketing mix.
- C - Controls - measuring the performance of our electronic marketing plan.

The road to electronic marketing will take longer to travel than previously expected. Electronic marketing uses internet and other information technologies to support commerce and improve business performance. However, some other view electronic business as comprising those activities that do not involve buying or selling over the internet, such as collaboration and intrabusiness activities which is a complement of electronic commerce. In broader sense, electronic commerce is basically equivalent to electronic business. Recent development on the electronic commerce is digital marketing. Some forms of digital markets are likely to flourish in the future (Champy, 2001). How to incorporate the internet into the integrated marketing strategy of a firm is the great challenge of today. Electronic business leaders educated and experienced in internet-technology need to apply business practices and models of creating value for the customers and the owners of the business to the digital world

of business. These leaders will take the traditional businesses to next stage of evolution of e-business.

The computer revolution is almost over. We have enough computing power now to do all the information gathering and analysis tasks we want fairly, easily and efficiently. The internet has made sharing information a reality. During the 90's the growth of internet use sparked whole new ways of doing business. Just like in any revolutionary period, thousands of companies tried to exploit the internet as a revenue generating tool. Online consumer behaviours have also changed. Trust in online shopping and payment mechanisms has increased. Consumers are buying more online and they are buying more complex products as well. On the flip side, they are becoming pickier. A survey found that when consumers are faced with a frustrating experience, 82% are less likely to return to the site, 55% form a negative impression of the retailer and 28% are less likely to shop at the retailer's physical store (Simeonov, 2006).

The first round has gone to the big, established brick and mortar businesses, banks, big retailers, big manufacturers. Brick and mortar businesses are those businesses which are carried out in the traditional way, that is off line selling of physical products by means of physical agents. But the internet now is just an extension of the old way of doing business. Websites are not only brochureware but also cheaper and the fastest communication network. As the novelty of internet disappears, consumers are starting to trust online shopping and are readily using the internet for research, communication and business. Customers must be served throughout the complete buying and ownership cycle. Treating customers right increases conversion of visitors to buyers and enables companies to build relationships. Those that don't risk being relegated to commodity suppliers, their customers are served by new intermediaries (Bonell, 1999).

The challenge over the next few years will be to understand emerging technology, and to see how it can be used to increase the profitability of any business. Not all businesses can be virtual retailers like Amazon, Dell, Wal-Mart and the like.

The battle over the next few years will be for customer attention. How do we get and keep a customer's attention when there are so many businesses and products competing through so many channels and points of contact. The truly revolutionary impact (Drucker, 1999) of the information revolution is just beginning to be felt. But it is not information that fuels this impact. It is not artificial intelligence. It is not the effect of computers and data processing on decision-making, policymaking, or strategy. It is something that practically no one foresaw or, indeed, even talked about ten or fifteen years ago about the explosive emergence of the internet as a major, perhaps eventually the major, worldwide distribution channel for goods, for services, and, surprisingly, for managerial and professional jobs. This is profoundly changing economies, markets, industry structures, products and services and their flow, consumer segmentation, consumer values, and consumer behavior; jobs and labor markets.

Every era of business yields new strategies and new ways of doing business. With the advent of radio and television came the first mass-market advertising. Now, the internet has so radically changed business that the rules for corporate strategy that held for the last 50 years have begun to crumble. There are some literal elements of commerce that are necessary for any transactions to take place, which are as true for regular bricks-and-mortar commerce as they are for electronic commerce.

First, whether we are doing business online or in the real world, we have to have a product to sell or a service to offer. Then, we must have a place from which to do business. In the traditional world of commerce this can be a physical store or, in a more figurative sense, a catalogue or phone number. In the world of electronic commerce the place from which one does business is the web site. Most businesses already exist in the bricks-and-mortar world of commerce. Adding a web site is a means to enhance their business. For internet startups, the web site is the only place that they do business.

In both regular commerce and electronic commerce we need to find a way to attract customers to the place of business. This is embodied by the marketing strategy, and everything from advertising to word of mouth fits into this category.

In order to do business, we also need a way to take orders and process payment. In a retail store there are no orders. Customers simply find the products they want, get in a line at the register, and pay the cashier. In electronic commerce, orders have to be placed and items shipped. Orders are usually handled through interactive, online forms. Money is another issue easily handled in traditional commerce. Customers in a retail store pay by cheque, cash, or credit or debit cards. Online customers can not pay by cash or cheque, only through electronic means like credit or debit card, electronic fund transfer etc.. Also, there are issues of security that surround online payment that do not come into play in the traditional bricks-and-mortar world. Electronic commerce transactions have to take place through secure electronic connections and special merchant accounts for accepting payment.

Once payment is collected, delivery of the product must take place. Fulfillment in traditional stores is as easy as putting the item in a bag and handing it over to the customer. Fulfillment in the world of e-commerce is more difficult, requiring shipping and transportation similar to catalogue and mail order businesses. For businesses that integrate electronic commerce into their existing business plan, fulfillment is as easy as hiring an extra employee to ship online orders. In Internet startup businesses, fulfillment must often be outsourced to a facility that can handle order processing and shipping in a more timely and professional manner.

Research focus (Coppel, 2000) identifies government, business and consumer as three user categories which can interact over the internet. Each of the three categories can interact either among themselves or with one another. Thus, a 3 x 3 matrix results in nine interaction possibilities. Five of the nine categories have gained prominence. They are business-to-

consumer (B2C), business-to-business (B2B), consumer-to-consumer (C2C), government-to-business (G2B) and government-to-consumer (G2C). There are interesting research issues in each of the five categories (Ramanathan, 2004).

However, my interest lies in studying trading communities within business-to-business categories for the following reasons:

1. In this specialization age, several businesses add value to a good or a service before it reaches end user. The potential for improving efficiency and effectiveness in this information intensive value addition process is enormous. Business-to-business trading communities inherently have the ability to tap this potential. Despite this huge potential, hundreds of business-to-business communities got busted. Thus, enormous stakes associated with the optimal functioning reinforce the call for studying business-to-business trading communities. Hence my interest.

2. Government organizations can equally benefit from purchasing through internet trading communities just as businesses do. However, government organizations are not forced to be competitive just as much as businesses are did. Though everincreasing knowledgeable citizens and businesses and other governments are demanding higher levels of efficiency and effectiveness, governments are not motivated by key variables such as the fear of extinction or loosing market share. Researchers, many of whom just as I am, are funded by governments, are morally responsible to provide impetus and assist government organizations in making use of emerging opportunities that the internet provides. Hence my interest is in making use of the technology provided by electronic and internet technologies and its impact. The United States and many European governments for instance pressurize the Indian government to reduce its bureaucracy and become efficient and effective.

This study explores trends, techniques, and changes in the way electronic marketing impacts the business in the new economy for a specific company. It looks at the way business is done on the internet now, and hopefully, generates some insights on how we need to change to stay ahead in the future. The study, by its nature can change as we go along, I encourage fellow students to experiment and to share ideas. It is all new and internet marketing will be a major tool in all aspects of marketing. Internet marketing will have profound effects on retail, marketing research, selling, advertising, direct marketing, international marketing and product development. Internet is used as a profound tool to make attractive advertisements and thereby pulling the visitors towards the web sites.

Purpose of the thesis

E-marketing (electronic marketing) is an area of great interest to me and making inducement in me on account of following reasons:

- The unbelievable speed and the momentum it developed with the common people and business community,
- The ease and the comfort it offers to both the users and the used,
- The utility of electronic commerce in various field including electronic marketing.

This paper will argue for and against the impacts that electronic marketing made in the present day society and in the business community in the following area:

- Business-to-business (B2B),
- Transactions in industrial inputs in electronic auctions and procurement,
- Customer relationship management (CRM), and
- Marketing and sales.

Objectives of the thesis

The basic objectives of this study are enumerated as under:

- To explain basic concept of e-marketing and its impact on customer service,
- To show the transparency involved in the transaction of e-commerce business,
- To prove reduction in transaction time of e-commerce business
- To study the strategies of customer relationship management and its role in the profitability of organizations,
- To establish the system of e-marketing, its adaptation and its various impacts with main reference to MSTC LIMITED as a case study.

Methodology of the thesis

Mainly qualitative and quantitative research strategies are adapted in this study which are of descriptive in nature with graphs. Both primary and secondary sources are used to analyse the problem. The required secondary data were collected through published printed matters like scientific journals, annual reports, important publications and scholarly articles through internet. Primarily, it is the secondary data which were used for analyzing world wide corporates. The primary data were collected in the form of answers to structured questionnaires sent to few of the utilizers and beneficiaries of e-commerce technology through electronic mail. Personal interviews were also carried out with the concerned authorities over phone and they could feed valuable inputs. Also a case study was conducted to study the impact of e-marketing in MSTC LIMITED which is one of the public sector undertakings working under ministry of steel, government of India.

I select the above study strategy for the following reasons. Firstly, the research strategy is adequately detailed to support a master thesis work as per the general norms and conditions of Faculty of Economics, University of Ljubljana, Slovenia. Secondly, it adapts a deductive logic for analyzing data. Thirdly, the case study referring MSTC LIMITED facilitates easy

access to data base and other information required for this study as I am an employee of this organisation where much of impact has been experienced on adapting electronic business models.

Data collection and data analysis

As mentioned before, the data used are both primary and secondary in nature. Secondary data were collected through secondary sources from printed and published matters like scientific and professional popular journals, magazines, annual reports of some of major corporates who have adapted electronic marketing system. It was collected by downloading same from websites. These may contain all type of data like nominal, ordinal, interval and ratio. These data cover over a period of seven to ten years. The financial results are compared with pre and post introduction period of electronic marketing and these data are used for analyzing the impact.

Besides above, I also collected primary data through personal interview by contacting key personals in various departments in MSTC LIMITED who could provide me valuable information and inputs over phone and through e-mail which are used in this study. Structured questionnaires have been framed and sent through e-mail to handful of samples containing buyers and sellers of electronic auctions. The data so collected were used to analyse the pros and cons of electronic marketing and also used to strive at the benefits and limitations faced by the users of the system.

Scientific contribution

By the presented work I wish to show the impact of electronic marketing in all walks of life and particularly in business entities. This will offer concrete ideas to those firms which are contemplating to adapt electronic business strategies and reap the true yield in electronic marketing area. By this research I wish to suggest the possible ways of improvement in the area of business-to-business transactions, customer relationship management and in industrial raw materials marketing in MSTC LIMITED.

Limitations

Due to time constraint, author has choosen a limited research area for this thesis. This thesis adheres to the domain of electronic marketing with respect to business-to-business, industrial raw materials, customer relationship management and restricts its study with special reference to MSTC LIMITED, a government of India enterprise. With respect to raw materials, it restricts itself to the aspects of supply and demand of major industrial inputs pertaining to steel industries, coal and oil industries in India. This is owing to the vast and diversified nature of industries and the limited time frame of the researcher.

Buying for private use is quite different from buying for business use. Therefore, this study will not include private or individual buying or selling. In this study the focus will be selling by government of India companies through e-auctions and buying by privately owned enterprises. The study is restricted to e-marketing by way of e-auctions. This research has more of a conceptual approach to electronic commerce and information technology and does not focus on the precise technical description of the various electronic and internet applications.

Chapter framework of the thesis

This thesis is divided into six chapters. In the first chapter, an introduction to the related field is introduced explaining the problem to be investigated followed by research purpose and research objectives. This chapter also contains the methodology, limitations of the thesis and scope for further studies. In the second chapter the reader is explained the concept of marketing and marketing strategies. It also explains the role of electronic commerce in marketing and e-commerce marketing priorities. The third chapter studies and shows the impact of electronic marketing in business-to-business transactions. It explains the benefits like transparency, cost reduction, human non-interference and profitability of e-commerce transactions. It also adds the study of profitability impact and data accuracy impact and limitation and future of e-commerce. The fourth chapter explains the customer relationship management. It deals with the study of customer relationship management and business strategies. It also analyses the relationship between customer relationship management and electronic marketing besides briefing about customer care balance sheet and importance of customers' loyalty. The fifth and penultimate chapter takes up the case study of MSTC LIMITED, a government of India enterprise. This chapter makes an indepth study of company profile, industries analysis, applications of electronic commerce in its functional operations, its growth trends, study of system of e-auctions and finally about suggestions and recommendations. The sixth and the last chapter concludes the thesis.

1 CONCEPT OF MARKETING AND MARKETING STRATEGIES FOR INDUSTRIAL INPUTS

It is a fundamental idea of marketing that organisations survive and prosper through meeting the needs and wants of customers. This important perspective is commonly known as the marketing concept. The marketing concept is about matching a company's capabilities with customer wants. This matching process takes place in what is called the marketing environment. Businesses do not undertake marketing activities alone. They face threats from competitors, and changes in the political, economic, social and technological environment. All these factors have to be taken into account as a business tries to match its capabilities with the needs and wants of its target customers (Tutor2u.net).

An organisation that adapts the marketing concept accepts the needs of potential customers as the basis for its operations. Success is dependent on satisfying customer needs. A need is a basic requirement that an individual wishes to satisfy. People have basic needs for food, shelter, affection, esteem and self-development. Many of these needs are created from human biology and the nature of social relationships. Customer needs are, therefore, very broad. Whilst customer needs are broad, customer wants are usually quite narrow. A want is a desire for a specific product or service to satisfy the underlying need.

Let us consider an example. Consumers need to eat when they are hungry. What they want to eat and in what kind of environment will vary enormously. For some, eating at McDonalds satisfies the need to meet hunger. For others a microwaved ready-meal meets the need. Some consumers are never satisfied unless their food comes and is served with a bottle of fine Chardonnay. Consumer wants are shaped by social and cultural forces, the media and marketing activities of businesses.

This leads into another important concept - that of customer demand. Consumer demand is a want for a specific product supported by an ability and willingness to pay for it. For example, many consumers around the globe want a Mercedes. But relatively few are able and willing to buy one. Businesses therefore have not only to make products that consumers want, but they also have to make them affordable to a sufficient number to create profitable demand.

Businesses do not create customer needs or the social status in which customer needs are influenced. It is not McDonalds that makes people hungry. However, businesses do try to influence demand by designing products and services that are attractive, affordable and available. Businesses also try to communicate the relevant features of their products through advertising and other marketing promotion. So, a marketing oriented business is one which has adapted the marketing concept.

1.1 Marketing strategy

Marketing strategy deals with pricing, selling, and distributing the product. It also deals with development of brands, communications and designing of product. Using market development strategy (developing new market with existing product), a company can capture a large share of an existing product through market penetration. These companies can extend the product life cycle leaving the maturing market to a new market. Using the product development strategy (new product in existing market), a company can introduce a new product where they are already selling their other products. This is one good way of introducing a new product. If their product which is already in the market is good, the market will have positive approach to their new product reposing the trust developed on the old product. New product being introduced in a new market is called diversification. Diversification is of two types, concentric diversification (related product) and conglomerate diversification (unrelated).

There are other marketing sales promotion strategies like push and pull strategies. Spending large amount of money on trade promotion by advertisement in order to gain or hold shelf space in retail outlets is called push strategy. This type of strategy is very common particularly in many food and consumer products in the United States and Canada. The trade promotion includes discounts and special offers. Spending money on consumer advertising designed to built brand awareness so that shoppers will ask for the particular product is called pull strategy. In this strategy, the advertisement pulls the products through the distribution channels.

Besides above, there are distribution strategies where a company can dicide whether to sell its products through distribution channels or directly. It can also decide to use multiple channels where it uses direct selling as well through distribution channels simultaneously. On arrival of internet, many companies choose to sell their product on multiple channels in which direct selling is through internet selling (Connor et al., 2004).

On the pricing strategies of a new product, acompanies can follow either skim pricing or penetration pricing. Skim pricing is adapted when a new product is introduced. It is generally high price to take advantage of the novelty and non-availability of the product by any other source. It is, however, a short term strategy and on passage of time this price needs to be brought down owing to development of similar product by other companies. It is to skim the cream of the demand and less competition. Penetration pricing is contrast of skim pricing. It is generally low price aimed at market development and its main objective is to gain market share. Penetration pricing strategy is aimed at long term objectives. There is one more pricing strategy known as dynamic pricing strategy in which the price is determined neither by seller nor by the market. The buyers determine the price by way of competition in the internet.

During the past decade, developments such as the rapid growth of the internet, digitization of information products, and digitization of the information attributes of non-information products, have necessitated businesses to fundamentally rethink, as well as institute major changes in their marketing strategies. Customer segmentation is moving into a new information rich era based on behaviour rather than the traditonal demographic methods. Promotional and marketing communications activities are becoming more target as a result of more and better information. Distribution channels are multiplying and intermediaries are coming under increasing threat as manufactures market their products directly to the customers. Companies will be forced to adapt their marketing models in order to create an effective response to these changes. Technology and the greater availability of data are increasingly driving changes in the organisation-customer interaction (www.easy-marketing-strategies.com).

Marketing strategy in an internet-enabled environment is viewed through the lens and speculate on the future of interactive marketing in the contexts of marketing practice, research in marketing and marketing education. Looking back, it is evident that marketing strategy and

marketing operations are transformed by the internet in many ways. Looking ahead, it can be expected that marketing strategy and marketing operations will be even more extensively integrated and blended in the internet enabled market environment in the future (Varadarajan & Manjit, 2009).

1.2 The role of electronic commerce in marketing

Electronic commerce plays an amazing role in every industry and activity. It plays a greater role in the manufacturing industries by pushing it into real time manufacturing, order to built, supply chain management etc., where it leads to save a lot on the side of investment and inventories. It improves supply chain by effectively adding value to it by both suppliers and the distribution channels.

E-commerce marketing is all about enticing web surfers to their site and, once there, to becoming a customer. While overall similar to marketing a physical business, ecommerce marketing has some unique ingredients. For instance, marketing a physical store requires substantial enticement to move a customer to take the effort to physically come by the store location. It also means that the customer has an investment in the visit. They have expended time, energy and money to get to the location (www.webtransitions.com).

On the web, visiting any store requires far less effort. A single mouse click and there they are. Unfortunately, the minimal effort to get to any website also means that the customer has nothing invested in the visit. It took almost no time or effort to get to the website so there is no client side investment in the process. They can just as easily move to another site. In fact, they can visit a dozen sites in as many minutes.

Customers who invest in visiting a physical location can generally be said to have a higher motivation for making a purchase. The specific need of the customer was great enough to overcome the investment of time, energy and money necessary to make the visit. This investment means that they are far more likely to make a purchase. After all, if they don't purchase from one store, they will have to increase their investment by going to another location. The need must be relatively higher for this to occur. Conversely, the online customer has almost no investment in the visit. Going to website requires one click of a mouse. Leaving same site requires one click of the mouse.

Many electronic commerce marketing companies look at this and use it to justify increased spending on getting new traffic to the web site. For the small and medium business the cost of increasing traffic to the site is substantial and will continue to increase. Just five years ago it cost almost nothing to bring new visitors to the website. As the competition has increased, however, this has fast become the most costly aspect of having an e-commerce web site. This is inspite of increased awareness and increase in the traffic of visitors.

The view of electronic commerce marketing is somewhat different. We should look at internet marketing success as the total cost of converting visitors into customers. This allows any body to measure the effectiveness of the total marketing program including getting new visitors, web site design, customer service and after sales marketing.

1.3 E-commerce Marketing Priorities

We can divide web site marketing into three primary divisions:

Enticing visitors (non-customers) to come to the site

- Search engine registration (natural search results),
- Pay-per-click,
- Public relations – news releases, articles and stories,
- Online advertising (banners, links/cross-links, directories, newsletter placement etc.).

Converting visitors (non-customers) into customers

- In-site promotions,
- Sales and special offers,
- In-store coupons,
- Associated products,
- Customer recommendations,
- Opt-in e-mail promotions.

Site effectiveness

- Enticing appropriate visitor behaviour,
- Establishing emotional context ,
- Building relationships,
- Increasing per customer purchases,
- After sale marketing,
- After sale relationship building.

Enticing visitors and converting visitors work hand in hand. One without the other dramatically reduces the opportunities for creating new customers. We have to get the new visitor to the site and we have to provide sufficient incentive to turn that visitor into a buying customer (webtransitions.com).

In many cases the visitor has almost no investment in visiting the e-commerce web sites. With no investment, website needs to provide sufficient and immediate enticements and rewards to keep the visitors from clicking the back button and going to another site. This requires a very close relationship between the keywords they used in their search to the content on the web page they view. The closer the relationship the more chance one can have of enticing the visitor to continue looking at any particular site.

2 IMPACT OF ELECTRONIC MARKETING IN BUSINESS-TO-BUSINESS TRANSACTIONS

The business environment is changing rapidly due to technological breakthroughs, globalisation, societal changes, deregulations, and more. The changing business environment forces organisations to respond. Traditional responses may not be sufficient because of the magnitude of the pressures and the pace of the changes involved. Therefore, organisations must frequently innovate and re-engineer their operations. In many cases, electronic commerce is the major facilitator of such organisational response.

Although the internet appeared in the late 1960s, internet electronic commerce took off with the arrival of the world wide web and browsers in the early 1990s and the liberalisation of the telecommunications sector and innovations that greatly expanded the volume and capacity of communications-optic fibre, digital subscriber line technologies, satellites, and barriers to entry have fallen. As a result, barriers to engage in electronic commerce have progressively fallen for both buyers and sellers.

Electronic commerce offers numerous benefits. As because these benefits are substantial, it looks as though electronic commerce is here to stay and can not be ignored. Existing and emerging web technologies are offering organisations unprecedented opportunities to rethink strategic business models, processes, and relationship. Feeny (2001) called these electronic opportunities, dividing them into three categories:

- Electronic marketing: This is the web based initiatives that improve the marketing of existing products,
- Electronic operations: This is the web based initiatives that improve the creation of existing products,
- Electronic services: This is the web based initiatives that improve the customer services.

All functional areas of organisations are affected by electronic markets. Broadly electronic market improves direct marketing and transform and re-define organisations. Direct marketing (sale of manufacturer to the ultimate consumers) and one-to-one marketing and advertising are becoming the norm. Mass customisation and personalisation are taking off. Production is moving to a built to order model, changing supply chain relationships and reducing cycle time. Virtual manufacturing is also on the rise. Financial systems are becoming more efficient as they become networked with other business functions, and human resources activities of recruiting, evaluation, and training are being managed more efficiently due to employees' interaction with the machines.

It is likely that the largest impact of B2B electronic commerce will be on small and medium-sized enterprises (SMEs), because many large businesses already have electronic data

interchange (EDI) systems in place which is also being converted into internet based. The accessibility of the internet makes electronic commerce a realistic possibility for SMEs and is likely to lead to its widespread diffusion.

Electronic commerce's most significant impact is on sectors that primarily transmit information (postal service, communications, radio and television) and those that produce it (finance, entertainment, travel agents or stock brokers). Electronically delivered products such as software, travel services, entertainment and finance are leading products in both the B2B and B2C markets.

2.1 Benefits of electronic commerce/electronic marketing

Electronic commerce provides enormous benefits to organisations, individual customers, and society (see Table 2.1). One of major benefits of e-commerce is the ability to solve complex problems that have remained unsolved for generations. Such complex problems require several e-commerce and information technology tools. Problems exist in big as well as small

Table 2.1. Benefits of E-commerce/E-marketing

	Benefits	Elaborations
1	Benefits to organisations	
1.1	Global reach	As web is on world wide, reaching and locating the customer globally become easier, cheaper and faster
1.2	Cost reduction	It lowers the cost of information processing, storage, distribution etc.
1.3	Business on round the clock operations	It is always open and opens for 24 hours a day, seven days a week and 365 days a year. There is no over time cost
1.4	Supply chain improvements	It reduces delays of supplies, inventories and cost
1.5	Lower communication cost	Internet is cheaper than any other type of communication
1.6	Ability to innovate	It facilitates innovations and enables unique business models
1.7	Improved customer service and relationship	It facilitates direct contact with the customers and thereby better customer relationship management
1.8	Speedy process and reduction in time	Everything is on real time basis and thereby speed up the process of selling and procurement enabling saving of time

(table continues)

(continued)

Table 2.1. Benefits of E-commerce/E-marketing

	Benefits	Elaborations
1.9	Up-dated materials and informations	Website facilitates easy up-dation of any information on the catalogue like materials, price, expiry date etc., and hence obsolescence is Avoided
1.10	Helps in price comparision	Instant price comparision is possible with various market places for the similar products
1.11	Helps SMEs to compete	Electronic commerce may help small enterprises to compete against large ones by using special business models
1.12	Lower the cost of distribution of digitised products	Digitised products are available online for which the customers can pay online and download the product instantly
1.13	Lower communication inventories	No need to have fax machine, telephone, etc., and it brings down the inventories of such communication equipments
2	Benefits to consumers	
2.1	Convenience	Buyers can shop from any where any time
2.2	More product and service	There are large collections to choose from
2.3	Cheaper product and service	Customers can compare and shop for cheaper Price
2.4	Instant delivery	Digitised products can be downloaded instantly
2.5	Information availability	It is very easy to find out what one needs, with details and demonstration online
2.6	Convenient participation	Online auctions can be done at any time and anywhere
2.7	Enables telecommuting	As online books and tutoring available on internet, people can work or study at home
2.8	Finding unique items	Using online auctions, one can locate the collectable items and antique
2.9	Electronic socialisation	It can socialise online in communities those reside at home
3	Benefits to society	
3.1	Enable telecommuting	It facilitates work at home and thereby less traffic and contributing to less pollution

(table continues)

(continued)

Table 2.1. Benefits of E-commerce/E-marketing

	Benefits	Elaborations
3.2	More public services	It educates the people and offers health care advices. Rural people can share the benefits and more services for poor
3.3	Increased standard of living	It enables to buy more and cheaper products and services

Source: Turban (2008), E-commerce 2008. A managerial perspective.

organisations and even cities and countries. The benefits offered by electronic commerce as tabulated above are not exhaustive.

2.2 Transparency

E-commerce system is an equal opportunity provider and it provides the information online and every one in need of these information can access from any where in the world with the help of internet without any hindrance. The portal functions world wide and throughout the day and night all 24x7. It provides the ability and flexibility to access the market at any time from any place. The term transparency is used to describe conditions under which information flows freely and important business information is readily disclosed so that it is obvious and easily understood. In the realm of e-commerce, the term transparency can be applied to different aspects of business, including the general concept of fair and honest business practices; pricing; and the degree to which companies can benefit by sharing data without compromising security (www.ecommerce.hostip.info).

In the area of pricing, transparency can refer to the very basic principle of honesty. If consumers order goods or services online, the listed prices for those goods and services should be all-inclusive. In other words, consumers should not find surcharges or extra fees added onto their credit card statements for purchases. Transparency is an important concept, because the consumer's fear of making purchases online has serious consequences for companies engaged in e-commerce. Although the practice of buying goods and services online was widely accepted by mid-2001, a study conducted by Brigham Young University revealed that many individuals were still fearful of online shopping at that time. For those who were reluctant, the biggest fear factor involved revealing credit card numbers (Nua Internet Surveys, 2001).

Pricing transparency also applies to the business-to-business sector, especially in the area of online marketplaces or exchanges. Online marketplaces are web sites (both public and private) where corporate buyers can purchase goods and services from a wide variety of sellers. In the early 2000s, such marketplaces existed for many industries, including packaged

goods, electronics, chemicals, and food and beverage. These venues gave companies the power to break long-established relationships with local suppliers and more easily seek out the best price, nationally or worldwide. In this scenario, transparency comes in the form of a supplier's price being visible to every other party (both buyers as well as competing sellers). Online marketplaces can lead to increased competition and more uniform prices, and, in some cases, lower prices. According to E-Commerce Times, a report from Morgan Stanley Dean Witter indicated transparency leads to specialization among suppliers seeking an advantage in an increasingly competitive marketplace, and predicted this would lead to more customization, more choice, and better service (Meeker, 2001).

E-commerce requires the disclosure of information from one entity to another (suppliers to manufacturers, manufacturers to distributors, customers to retailers, and so on). For example, Wal-Mart places its entire supply chain online for all to see. This form of transparency creates value for trading partners in a supply chain, but also poses potential security risks. Companies that reveal too much data regarding prices and production can open themselves to pressure that may result in reduced profits. Additionally, partners in a supply chain need to be careful about the information they impart in order to prevent the violation of antitrust laws or the revelation of too much company intelligence to competitors (Electronic markets, 2002).

Despite concerns about sharing details with outsiders, some companies have benefited significantly from this transparent approach, relying on end users to help them develop new products and services. The widespread adoption of the internet as a platform for business is due to its non-proprietary standards and open nature as well as to the huge industry that has evolved to support it. The economic power that stems from joining a large network will help to ensure that new standards remain open. More importantly, openness has emerged as a strategy, with many of the most successful e-commerce ventures granting business partners and consumers unparalleled access to their inner workings, databases, and personnel. This has led to a shift in the role of consumers, who are increasingly implicated as partners in product design and creation. An expectation of openness is building on the part of consumers/citizens, which will cause transformations, for better (e.g. increased transparency, competition) or for worse (e.g. potential invasion of privacy), in the economy and society (OECD, 1999).

Openness means information flow to all needy. This will stimulate more customers to visit the website which increases the chances of participation by such visitors. This obviously increase the competition. Information about prices and other conditions such as rebates, sales, transaction costs, terms of sale, etc. can be found in an immediate fashion through access to a business-to-business exchange. Thus, generally speaking business-to-business exchanges are bound to increase transparency in the market. When viewed from the demand side, the increase in transparency is clearly procompetitive. The enhanced access to information gives buyers more choice and increases competition amongst sellers. On the other hand, sellers have sound business motivations to be listed as active sellers in business-to-business

exchanges because they do not want to be left aside from the business-to-business marketplace.

However, a dramatic increase in transparency can have a negative competitive impact when viewed from the supply side. Any effort to reduce prices or introduce new rebates can easily be duplicated by competitors. The result may be that incentives to execute aggressive pricing policies are substantially diminished. In this environment of diminished incentives to price aggressively, incentives to reach price fixing agreements with competitors to compensate the effect of transparency are substantially higher (Garcia, 2001).

2.3 Reduction in transaction time

Electronic commerce alters the relative importance of time. E-commerce is reducing the importance of time by speeding up production cycles, allowing firms to operate in close co-ordination and enabling consumers to conduct transactions around the clock. As the role of time changes, so the structure of business and social activities, causing potentially large impacts also changes. (OECD, 1999)

With traditional marketing techniques all of these things are delivered in print format or in person. Internet marketing however, uses the power of online networks and interactive media to reach the marketing objectives no paper, no telephone calls, no in person appearances. Electronic versions of catalogues, brochures, white papers, data sheets etc. don't have to be printed, stored or shipped to the customers resulting in an enormous savings in printing. The searching of the product or services is very easy on the internet, comparison of prices is possible, purchase order is placed online, no physical appearance before the stores, the payment can also be made online, while payment option by cash is open. Physical products are delivered at home and digital products are accessed instantly for downloading. Every activity of the purchase is time savings which is a great benefit and convenience for both sellers as well as buyers.

E-commerce requires new frameworks for conducting business and a re-examination of government policies relating to commerce. The force that drive e-commerce will require a re-examination of the framework for conducting business and a questioning both of the efficacy of government policies pertaining to commerce and of traditional commercial practices and procedures, most of which were formed with a much different imagination of commerce in mind (OECD, 1999).

2.4 Human non-interference

Electronic commerce is known for its human non-interference. Once the software is installed and start running on the internet, it does not require human involvement in monitoring or manipulating the automated interactive system. The mechanism and the system themselves

should take care of the information and interactive activities. For example in a an electronic auction, the information catalogue containing the list of items put up for auction sale, its terms and conditions, its minimum offered prices, etc are available. Once electronic bidding started, the system should accept the various bids offered by different registered bidders in the order of higher bid and reach to the highest when no hits are recorded. Now the system makes its logic calculations and conclusions in itself without the involvement of human and declares the acceptance or rejection of the highest bids. In the stated system, any interference of human will eventually leads to manipulation according to his own wish and thereby spoil the whole sanctity of the system.

The same is applicable in all applications of e-commerce. As such the system can be set to offer automatically discount facilities according to the volume of purchase for a particular buyer, automated calculation of incentives, price preference etc. Any clandestine interference is traceable by the electronic audit system and internet protocol as because all activities are registered automatically by the electronic registry.

2.5 Profitability impact of e-commerce

By placing the necessary information online in an easily accessible format, electronic commerce merchants greatly increase the efficiency of the sales process. As a result, even when customers complete a transaction in a traditional way (off-line), over the phone or in a showroom, they frequently arrive knowing which product they want and ready to buy. This can improve the productivity of sales people.. The electronic interface allows e-commerce merchants to check that an order is internally consistent and that the order, receipt, and invoice match.

In what are increasingly knowledge-based economies dominated by sophisticated products, customer service and after-sales service are a major cost for many firms, accounting for more than 10 per cent of operating costs (OECD, 1999). Through electronic commerce, firms are able to move much of this support online so that customers can access databases or smart manuals directly. This significantly cuts costs while generally improving the quality of service.

Internet-based electronic commerce procedures now make it possible to apply electronic data interchange-type systems to relatively small purchases, thereby drastically reducing errors, ensuring compliance with organisational norms, and speeding the process. Estimates of the savings gained range from 10 to 50 per cent, although in many cases the time reductions are as important as the monetary savings: firms report cutting the time needed to process purchase orders by 50 to 96 per cent (OECD, 1999).

Although shipping costs can increase the cost of many products purchased via electronic commerce and add substantially to the final price, distribution costs are significantly reduced

(by 50 to 90 per cent) for electronically delivered products such as financial services, software, and travel (see Table 2.2).

Table 2.2. E-commerce Impact on Various Distribution Costs

Item	Airline tickets	Banking	Bill payment	US\$ per transaction	
				Term life insurance policy	Software distribution
Traditional system	8.0	1.08	2.22 to 3.32	400-700	15.00
Telephone based	...	0.54	5.00
Internet based	1.0	0.13	0.65 to 1.10	200-350	0.20 to 0.50
Savings(%)	87	89	71 to 67	50	97 to 99

Source: Coppel (2000). E-commerce: Impacts and Policy Changes. Unclassified OECD working paper.

As an illustration, the Indian retail growth story continues on the internet as well. The e-commerce sales have been growing consistently over 30 percent year on year (see Table 2.3).

Table 2.3. Sales through E-commerce to Consumers in India

Serial No.	Year	Transaction	Percentage increase over the previous year
1	2006	\$0.76 billion	-
2	2007	\$1.23 billion	61.84
3	2008	\$1.90 billion	54.47
4	2009	\$2.84 billion	47.37
5	2010	\$4.07 billion	43.31
6	2011	\$5.56 billion	36.61

Source: Tech Crunches-Internet Statistics and numbers. Retrieved July 05, 2009, from [http:// techcrunchies.com](http://techcrunchies.com).

While the percentage of increase of purchase through electronic commerce in 2007 over the previous year stood at 61.84%, it is constantly decreasing in the subsequent years even in the estimates upto 2011. It is an observed phenomena that sale through internet is gaining popularity and many people started purchasing their requirements online in the internet which they find it more convenient and less time consuming. Therefore, there could be no reasons to substantiate this trend of decline but may be due to declining confidence, and security levels and increased cyber crimes and cheating in electronic commerce, the trends shows downward.

2.6 The real impact of business-to-business data accuracy

Working with accurate data in a customer relationship management system is proven to produce significant positive return on investment (ROI) impacts. The most serious impact of inaccurate data is financial. When measured, in general, most databases are found to have inaccuracies to a great extent. The obvious financial impacts are wasted collateral and mailing costs. But there is an even greater lost opportunity financial impact associated with the incremental revenue and margin that could have been gained by identifying and mailing to the correct decision-maker. Many companies avoid the process of cleaning their database because of the costs involved in the updating process (Pitton, 2005).

Accurate and relevant information is one of the most valuable assets of any organization. Clean and upto-date data, as well as properly maintained customer profile information, enable an organization to make more informed business decisions, market more effectively, increase return on investment, build brand loyalty and prevent customer alienation says Lynne Bolen, vice-president-marketing services, One to one interactive. If maintained on an ongoing basis, an accurate marketing database will be a profit center. This properly maintained investment will appreciate in value over time and become invaluable for sales and marketing as well as operations and finance.

Although the present financial turmoil have a great impact on electronic commerce website, small and medium-sized enterprises are more likely to highlight the importance of electronic commerce. For small and medium-sized enterprises business-to-business is still an important way to earn money and seek new buyers. Electronic commerce will become a leading business model in near future. As a result, in the current economic environment, the domestic business-to-business platforms still have room for further improvement. To overcome the problems that businesses face today corrective economic measure should be taken collectively, so that it can reduce the impact of the financial turmoil and improve business at any situation (articles.webraydian.com).

If buyers can not be satisfied, then they will leave and have no confidence to the platform after a long time in the market place using electronic commerce. In externally oriented organisation, business-to-business platform has a large number of suppliers, while they can not find enough buyers. Business-to-business platform pays more attention to how to become stronger and bigger rather than how to offer high quality service to the buyers and sellers. In fact, they would gain a long term and stable profit from the deals between buyers and sellers if they pay more attention. In the international market, there are buyers who have different purchasing habits and characteristics of the demand. But many business-to-business platforms just treat them in the same way without any consideration of buyers' different habits and specific details.

After analysis of existing problems of business-to-business platform, there appears to have an overall grasp of existing business-to-business platform and all efforts to be employed to improve the same. Business-to-business platform should take a full consideration of their buyers and sellers. If there are too many providers which causes a fierce competition, the buyers can not find suitable suppliers then turn into orders of other countries. And we should develop an effective strategy to meet all buyers who have different purchasing habits. Business-to-business has not step into the stage of full development, it has a bright future. So there are much room for us to develop business-to-business firms.

Electronic commerce has other effects. It will serve to accelerate and diffuse more widely changes that are already under way in the economy, such as the reform of regulations, the establishment of electronic links between businesses (EDI), the globalisation of economic activity, and the demand for higher-skilled workers. Likewise, many sectoral trends already under way, such as electronic banking, direct booking of travel, and one-to-one marketing, will be accelerated because of electronic commerce.

Electronic commerce has also impact on interactivity. Electronic commerce over the internet vastly increases interactivity in the economy. These linkages now extend down to small businesses and households and reach out to the world at large. Access will shift away from relatively expensive personal computers to cheap and easy-to-use televisions and telephones to devices yet to be invented. People will increasingly have the ability to communicate and transact business anywhere, anytime. This will have a profound impact, not the least of which will be the erosion of economic and geographic boundaries (OECD, 1999).

2.7 Limitations of electronic commerce

According to a report published by website harmonyhollow.net (2006), the major barriers to electronic commerce are:

- Resistance to new technology,
- Implementation difficulties,
- Security concerns,
- Lack of technology skills,
- Lack of potential customers and
- Cost.

Technological limitations includes lack of universal standards for quality, security and reliability, insufficient bandwidth, integration difficulties of software with internet etc., The non-technological limitations include resistance to change from brick and mortar store to a virtual store. People do not have sufficient trust to deal with paperless and faceless transactions. Electronic commerce could not instill confidence in the minds of the users as the online frauds are on the increasing trend. Another limitation is that the measurement system for measuring the benefit of electronic commerce is yet to be evolved. It is very difficult to

measure the effect of online advertisement. Security and privacy are the major concern for the purchasers.

Despite these limitations and barriers, electronic commerce is expanding rapidly. The compelling reasons may be the omnipresence of the electronic commerce and digital revolutions that are influencing the business environment.

2.8 The future of business-to-business in e-commerce

Using the internet facility, business-to-business commerce promises many benefits, such as dramatic cost reductions and greater access to buyers and sellers and hence transparency. Yet little is known about how business-to-business electronic commerce will evolve. Wise and Morrison (2000) argue that changes in the financial services industry over the past two decades provide important clues. Exchanges, they say, are not the primary source of value in information-intensive markets; value tends to accumulate among a diverse group of specialists that focus on such tasks as packaging, standard setting, arbitrage, and information management. Because, scale and liquidity are vitally important to efficient trading.

Electronic speculators, seeking to capitalize on an abundance of market information, will tend to concentrate where relatively standardized products can be transferred easily among a large group of buyers. In many markets, a handful of independent solution providers with well-known brand names and solid reputations will thrive alongside mega-exchanges. Sell-side asset exchanges will create the networks and provide the tools to allow suppliers to trade orders among themselves, sometimes after initial transactions with customers are made on the mega-exchanges. For many companies, traditional skills in such areas as product development, manufacturing, and marketing may become relatively less important, while the ability to understand and capitalize on market dynamics may become considerably more important.

Many web observers believe that web portal will be the great revenue generating business of the future and that adding portal features to their existing sites or converting those sites to portals is a wise business strategy. They think that incorporating the sense of belonging developed in web communities with the handy tools of search engines and web directory sites will yield web sites with high degrees of stickiness that will be extremely attractive (Schneider & Perry, 2001). Future of e-commerce certainly looks good, better and best. More customers would be attracted towards the internet encouraging more retailers to do business and vice versa. The conveniences it offers to one and all is unmatched. But e-commerce has not just its pros but cons too, not just advantages but disadvantages too. It functions like any other industry. There are conflicting opinions regarding the future of e-commerce. If certain people say e-commerce will boom and zoom more than ever in another few years, there are people who even say that the future of e-commerce looks extremely bad and will go for a big fall as happened to dot.com companies during 2000 (Chen, 2009).

3 CUSTOMER RELATIONSHIP MANAGEMENT

Relationship marketing is a mutual interest between company and customer. It is not a new concept. In fact, it is as old as the merchant trade itself. It is the demonstration of a deep and abiding regard for the customer and this is displayed in the products and services sold, in the interaction between company and customer, company and potential customers, company and suppliers, and so on. And in this case, the word company encompasses every employee that represents that company. It transcends the product or service being sold (Besant & Sharp, 2000). Customer relationship management (CRM) is a term that is often referred to in marketing. However, there is no complete agreement upon a single definition. This is because customer relationship management can be considered from a number of perspectives. In general, the three perspectives are: information technology (IT) perspective, the customer life cycle (CLC) perspective and business strategy perspective.

1. Customer relationship management from the information technology (IT) perspective: From the technology perspective, companies often buy into software that will help to achieve their business goals. For many, customer relationship management is far more than a new software package, the renaming of traditional customer services, or an information technology based customer management system to support sales people. However, information technology is vital since it underpins customer relationship management, and has the payoffs associated with modern technology, such as speed, ease of use, power and memory, and so on.

2. Customer relationship management from the customer life cycle (CLC) perspective: The customer life cycle has obvious similarities with the product life cycle (PLC). However, CLC focuses upon the creation of and delivery of lifetime value to the customer i.e. looks at the products or services that customers need throughout their lives. It is marketing orientated rather than product orientated. Essentially, customer life cycle is a summary of the key stages in a customer's relationship with an organisation.

3. Customer relationship management from the business strategy perspective: The business strategy perspective has most in common with many of the lessons and topics, and indeed within the field of marketing itself. A commonly cited definition of customer relationship management is that of CRM (UK) Ltd (2002), as follows: Customer Relationship Management is the establishment, development, maintenance and optimisation of long-term mutually valuable relationships between consumers and organisations (Baker, 2002).

The key to the definition is long-term mutually valuable relationship. This is based upon a definition of marketing that considers marketing as a mutually satisfying system of exchanges. So customer relationship management is the building and maintenance of long-term customer relationships. The relationship delivers value to customers, and profits to

companies. The relationship is supported but not driven by cutting edge information technology. The business strategy is based upon the recruitment, retention and extension of products, services, solutions or experiences to customers. This is the core of customer relationship marketing.

3.1 The need of customer relationship management for success of business

Customer relationship management helps the business in the following ways:

- Provide better customer service,
- Make call centers more efficient,
- Cross-sell products more effectively,
- Have sales staff close deals faster,
- Simplify marketing and sales processes,
- Discover new customers and
- Increase customer revenues.

Considering all the critical business processes associated with ordering, fulfillment, payment, billing, employee benefits, sales, marketing and customer service, what percentage of these processes is completely and effectively digitized. Is it 10%, 30%, 50% or more. One research indicates that the average is between 20 and 30% - higher for Global 2000 companies, lower for small and mid-sized businesses. Customer relationship management helps businesses use technology and human resources to gain insight into customer behaviour and to recognize the value of those customers. Customer relationship management goes beyond sales, marketing and customer-service applications into business intelligence, analytics, hosted applications, mobile capabilities and much more. By thinking more insightfully about what our customers are worth, we can focus our resources on attracting and keeping the right type of customers. This focus, in turn, will make customer relationship management efforts more productive and position oneself better for innovation and growth (six-sigma-crm.com).

3.2 Customer relationship management and business strategy

We now consider the business strategy perspective on customer relationship management. Here, a model is proposed, which is a hybrid, and typical of many of the models (marketingteacher.com). This model has three key phases and three contextual factors:

Three key phases:

- Customer acquisition,
- Customer retention, and
- Customer Extension.

Three contextual factors:

- Marketing orientation,
- Value creation, and
- Innovative information technology.

Let us take each one to explain in very brief terms:

Customer acquisition - This is the process of attracting our customer for their first purchase. We have acquired our customer. Growth is through market orientation, innovative IT and value creation. We aim at increasing the number of customers that purchase from us for the first time.

Customer retention - Our customer returns to us and buys for a second time. We keep them as a customer. This is most likely to be the purchase of a similar product or service, or the next level of product or service. Growth is through market orientation, innovative IT and value creation. We aim at increasing the number of customers that purchase from us regularly.

Customer extension- The customers are regularly returning to purchase from us. We introduce products and services to our loyal customers that may not wholly relate to their original purchase. These are additional, supplementary purchases. Of course once our loyal customers have purchased them, our goal is to retain them as customers for the extended products or services. Growth is through market orientation, innovative IT and value creation. We aim at increasing the number of customers that purchase additional or supplementary products and services.

Marketing Orientation – It means that the whole organisation is focused upon the needs of customers. Customer needs are addressed by the three levels of a product whereby the organisations not only supplies the actual, tangible product, but also the core product and its benefit, and also the augmented product such as a warranty and customer service. Marketing orientation will focus upon the needs of consumers for all three levels of a product.

Value creation - centres on the generation of shareholder value based upon the satisfaction of customer needs and the delivery of a sustainable competitive advantage.

Innovative information technology -Information technology must be up-to-date. It should be efficient, speedy and focus upon the needs of customers. Whilst information technology software are not the entire story for customer relationship management, it is vital to its success. Customer relationship management collects data on consumers and their transactions. Huge databases store data on individuals and groups of individuals. In some ways, customer relationship management means that an organisation is dealing with a segment of one person, since every consumer displays different purchasing habits and preferences. Organisations will track individuals, and try to market products and services to them based upon similar buyer behaviour seen in other individuals.

Figure 3.1 depicts the achievement of growth of an organisation by employing customer relationship management strategies. Growth is articulated by acquiring new customers by attractive web site. Growth is improved by making the customers to come again and to repeat

the orders. Furtherance of growth is seen when the same customer is persuaded to buy other products or services of the company.

Figure 3.1. Marketingteacher Model of CRM and Business Strategy



Source: www.marketingteacher.com/Lessons/lesson_crm_business_strategy.htm. Retrieved on 09.5.2009

At the stage of acquiring a new customer, the whole organisation should have positive orientation towards the customer, during retention phase, it creates value to the shareholders. Effective and innovative information technology is required to strengthen customer relationship management which leads to customer extension and growth.

3.3 Customer relationship management and electronic marketing

Customer relationship management refers to processes and systems used by companies to manage their relationships with customers, including the capture, storage and analysis of customer, vendor, partner, and internal process information. Customer relationship management is an evolving concept. An end-to-end customer relationship management software solutions spanning marketing, automation, and sales force automation software, customer service and helpdesk software, sales order processing software, asset and project management software, defect tracking software and more. Some typical features of a customer relationship management system are:

- Sales force automation: Customer-centric sales function management, sales management, sales forecasting, pipeline management, mobile sales, sales commissions management,

- Sales order processing: Order lifecycle management, quotation and invoicing, inventory management, Shipping and RMA,
- Marketing communication automation: Marketing management, e-mail campaigning, direct mail campaigning, tele-marketing, marketing analytics, promotional documents, etc.
- Issue/project management: Defect management, test case management, product release management, time and cost tracking, project management,
- Customer help desk: Customer support, multi channel, contact center, mobile support, customer portal, customer self service, customer survey, SLA Management,
- Partner Management: Customer relationship management portal, partner lead distribution, partner self-service, partner order processing, reseller and affiliate management, etc.
- Helpdesk software: Employee help desk, multi channel contact center, mobile support, asset management, employee portal, employee self service, employee survey.

The technology requirements of a customer relationship management strategy can be complex and far reaching. The basic building blocks are:

- A database to store customer information. This can be a customer relationship management specific database or an enterprise data warehouse,
- Operational customer relationship management requires customer agent support software,
- Collaborative customer relationship management requires customer interaction systems, e.g. an interactive website, automated phone systems etc.

Analytical customer relationship management requires statistical analysis software as well as software that manage any specific marketing campaigns. Each of these can be implemented in a basic manner or in a high end complex installation (networkdictionary.com).

Information Technology (IT) and customer relationship management

As we have discussed, Customer relationship management is more than just software. For the purposes of this introduction, information technology and customer relationship management have three key elements, namely customer touch points, applications, and data Stores (Raisch, 2001). Customer touch points are vital since the business has a marketing orientation and focuses upon the customer and his current and future needs. This is the interface between the organisation and its customers. For example one buys a new car from a dealership, and he enters a showroom. The dealership is a contact point. He meets with a salesperson whom demonstrates the car. The salesperson is a contact point. He goes home and looks at the car manufacturer's website, and then sends the company an e-mail. Both are contact points. Other

contact points include third generation telephone, video conferencing, interactive television, telephone, and letters.

Customer relationship management continues to be the most vibrant, critical and evolving technology category in today's market. Customer relationship management today is no longer just about enterprise software. Rather, today's customer relationship management is a flexible solution (refer Figure 3.2).

Figure 3.2. Customer Relationship Management (CRM) Cube



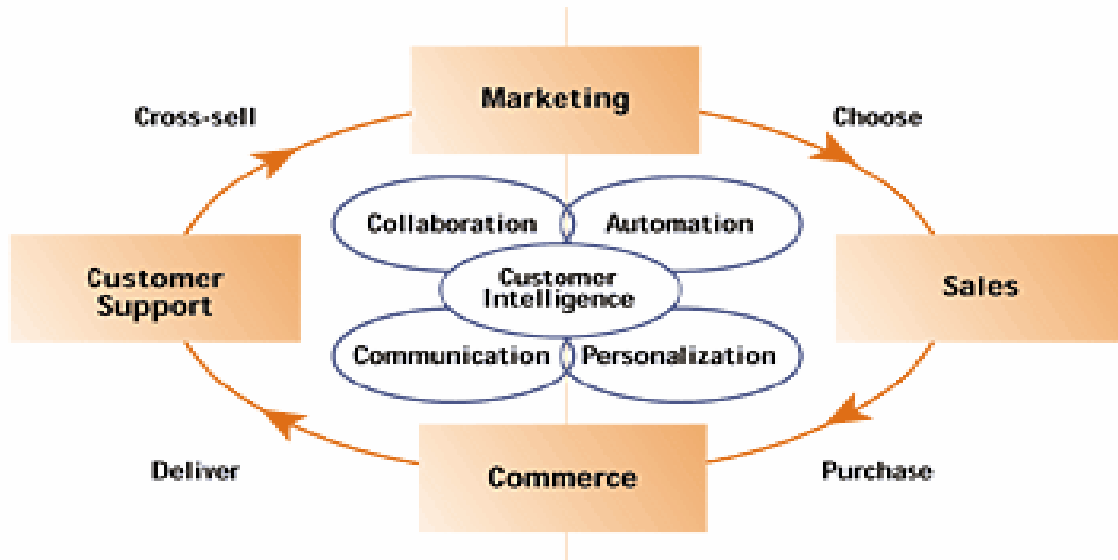
Source: website http://six-sigma-crm.com/best_crm_software.html. Retrieved on 01.5.2009

Organisations should be able to identify their best customers, what best the organisation can do to attract. They should also know to retain the best customers and to increase the customers' profits. The truth is that most companies have difficulty understanding and managing customer life cycles and profitability. This is due to problems designing and executing effective marketing campaigns, and problems measuring their effectiveness.

For customer relationship management to be truly effective, an organization must decide what kind of customer information it is looking for and what it intends to do with it. Look at how customer information comes into a business, where and how it's stored, and how it's used. Then have company analysts comb through the data to get a complete view of each customer and pinpoint areas where better services are needed. One way to assess the need for a customer relationship management project is to count the ways a customer can access the company. The more there are, the greater the need for the single centralized customer view a customer relationship management system can provide.

Figure 3.3. Customer Relationship Management Cycle

Customer Interaction + Customer Intelligence = Customer Relationship Management



Source: http://six-sigma-crm.com/best_crm_software.html. Retrieved July 01, 2009

Customer relationship management enables real-time availability checks, contract management, billing management, fulfillment visibility, and order tracking, giving the features and functions necessary for marketing planning, campaign management, telemarketing, lead generation, and customer segmentation. In addition, customer relationship management allows to offer ongoing customer care across all channels with a customer-interaction center, web-based customer self-service capabilities, service and claims management, field service and dispatch, and installed-base management. Relationship marketing-establishing, developing, and maintaining successful relational exchanges-constitutes a major shift in marketing theory and practice.

3.4 Customer care balance sheet

To gain a better understanding of the complaints, a customer care balance sheet is an useful tool. It tells the organisation how much business it is loosing both from customers who do not complain and from customers who complain and are not satisfied with the way their complaint is handled. Surveys can be used periodically to ask customers who have not complained and those who have, how satisfied they are with their experience, how many people they will tell if they are not satisfied and whether they intend to use the services of the company again, as a result of their experience (Cook, 2002). The answers from these surveys are converted into annual lost sales revenue using the equation (1) shown below:

$$\begin{array}{l}
 \text{Sales lost from} \\
 \text{customers who} \\
 \text{experienced a} \\
 \text{problem and} \\
 \text{did complain}
 \end{array}
 +
 \begin{array}{l}
 \text{Sales lost from} \\
 \text{customers who} \\
 \text{experienced a} \\
 \text{problem and did} \\
 \text{not complain}
 \end{array}
 +
 \begin{array}{l}
 \text{Sales lost} \\
 \text{if the customer} \\
 \text{had no} \\
 \text{problem}
 \end{array}
 =
 \begin{array}{l}
 \text{Total} \\
 \text{sales} \\
 \text{lost}
 \end{array}
 \quad (1)$$

The first element is sales lost from customers who experienced a problem and did complain but were not entirely satisfied with the way their complaint or the enquiry was handled. The sales lost include sales lost from negative word of mouth advertising and sales lost from customers who will not purchase the product or the service again. The second element is sales lost from customers who experienced a problem but did not complain. Again the sales lost include sales lost from negative word of mouth advertising and sales lost from customers who will not purchase the product or the service again.

In the formulation, sales gained from positive word of mouth advertising are not taken into consideration because the formula deals with market damage rather than market opportunity. To make the calculation accurate for each type of business, the equation is applied over the reasonable period of loyalty of the customer. The final calculation then takes the total sales lost over this period of loyalty divided by the period of loyalty as shown in equation (2) to arrive at annual sales lost.

$$\text{Total sale lost} \div \text{Loyalty period} = \text{Annual sales lost} \quad (2)$$

This type of customer care balance sheet can help with the financial support of senior management for developing a means of ongoing customer care measurement which allows employees throughout the organisation to determine how well they are performing.

Balanced scorecard, the customer perspective

The balanced scorecard is a strategic planning and management system that is used extensively in business and industry, government, and non-profit organizations worldwide to align business activities to the vision and strategy of the organization. It is a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance. It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results. When fully deployed, the balanced scorecard transforms strategic planning from an academic exercise into the nerve center of an enterprise.

Kaplan and Norton (1992) describe the innovation of the balanced scorecard. The balanced scorecard retains traditional financial measures and these measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation. Balance sheet and other financial statements do not completely reflect the true position of a company. Therefore, the factors that are also responsible to reveal the true nature and position of a company have been brought out by Kaplan and Norton in the form of balanced scorecard. This study restricts itself to factors from customers' perspective only.

The Customer Perspective

Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business. These are leading indicators. If customers are not satisfied, they will eventually find other suppliers that will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good. In developing metrics for satisfaction, customers should be analyzed in terms of kinds of customers and the kinds of processes for which we are providing a product or service to those customer groups. It is analysed in terms of following five aspects: Delivery performance to customer, quality performance for customer, customer satisfaction rate, customer percentage of market and customer retention.

Table 3.1. Balanced Scorecard-Customer Perspectives

To achieve our vision how should we appear to customers?	Objectives	Measurements	Targets	Initiatives

Source: Kaplan, R. S., & Norton, D.P. (1992). Translating strategy into action. The balance scorecard

Within each of the balanced scorecard financial, customer, internal processes and learning perspectives, the firm must define the following: strategic objectives-what strategy is to achieve in that perspective. Measurement –how progress for that particular objective will be measured. Targets-the target value sought for each measure. Initiatives- what will be done to facilitate reaching of the target. Customer perspective addresses to question of how the firm is viewed by its customers and how well this firm servicing its targeted customers in order to meet the financial objectives. Generally, customers view the firm in terms of time, quality, performance and cost of the services offered by it.

The value of listening to the customers

Service quality improvements came about as direct result of listening to customers and proactively going out to generate feedback, rather than just relaying upon complain analysis. Successful service quality programmes, therefore, begin by listening to the customers. The problems brought by the customers may be much complicated that these may be beyond the purview and capability of the listener, but still listening to the customers gives them an apparent satisfaction. Before giving any information or suggesting solutions, the customers should be heard well and should understand clearly the needs of the customer.

To gauge the quality of service an organisation providing, it is important to gain the views of customers before a service initiative begins. Likewise, it is critical that customer satisfaction measures are based upon a customer perception of what is important, rather than those of the

organisation. Conducting surveys of customers before a service improvement programme begins providing a benchmark against which to monitor the progress of a service campaign. There is a difference between perceived and received levels of service. That is the perceptions of the quality of service received by the customer and the perception of the service given by the service provider. Research conducted among customers shows that the gap between these two should be mitigated.

Customer's trust and loyalty

Whenever customers buy a product, they are also buying that service element too. A seller can create value in a relationship with a customer by nurturing customer's trust and developing it into loyalty. Even if products are commodity items, the service element can be a powerful differentiating factor for which customers will pay extra. These services include delivery, order handling, help in selecting a product, and after sale support. Since such services can not be evaluated by potential customers before purchase of the product, the customer should trust the seller to provide an acceptable level of service. When a customer has an experience with a seller that provides good service, that customer begins to trust the seller. When a customer has multiple good experiences with the seller, that customer feels loyal to the seller. Thus, repetition of satisfactory service can build a customer loyalty that will prevent a customer from seeking out alternative sellers that offer lower prices. Loyal customers are more profitable to the organisation (Schneider & Perry, 2001).

4 IMPACT OF ELECTRONIC MARKETING-THE CASE STUDY OF MSTC LIMITED

4.1 Profile of MSTC LIMITED

MSTC LIMITED (earlier Metal Scrap Trade Corporation Limited) is a PSU (Public Sector Undertaking) under the administrative control of the ministry of steel, government of India. It attained the status of mini-ratna category-I in 2007 and schedule 'B' company in 2008. The company was set up in 1964 to act as a regulating authority for export of ferrous scrap. Government of India, members of Steel Arc Furnace Association of India (SAFAI) and members of Iron and Steel Scrap Association of India (ISSAI) had with the investment. The company has paid-up capital of US \$ 4553 and reserves of over US \$ 53.8 million (see Appendix-A, B and C).

MSTC LIMITED became the subsidiary of Steel Authority of India Limited (SAIL) in 1974. In 1982, it got delinked from SAIL and became an independent company under ministry of steel continuing the activities of canalisation and disposal of scrap on account of PSUs and government departments. It was acting as canalysing agency of government of India for

import of steel scrap and old ships for demolition. While the import of old ships was decanalised during 1992, import of steel scrap was decanalised on the basis of export and import policy 1997. Even after decanalisation, MSTC LIMITED continued to import steel scrap. Rather it expanded the import basket by adding new items to it during the post-decanalisation period. MSTC LIMITED has two major portfolios of business: International marketing division and domestic marketing division.

International marketing division

International marketing division looks after the import of industrial raw materials and bulk for its principals (organisations to whom the imports are made). The sourcing is done either from the manufacturers/ traders or from international repute. The items that are procured include carbon steel melting scrap, heavy melting scrap, hot rolled coils, billets, wire rods, coke, coking coal, super kerosene oil, naphtha etc. Most of these are mainly consumed by the steel industries in the country. It also sources the required raw materials from domestic maufaturers. The volume of imports for the fiscal 2008-2009 was around US \$ 0.58 billion.

Domestic marketing or Selling agency division

The second portfolio provides a virtual market place for domestic sellers and buyers to do business of excess and unwanted inventories like metal scrap (ferrous/non-ferrous), surplus stores, machineries, obsolete spares, used vehicles, and plants etc. of public sector undertakings and government departments. The disposal activity was carried out through tenders, auctions, tender-cum-auctions, e-auction etc. The traditional methods were replaced by electronic auctions by introducing e-commerce during 2003. The company undertakes marketing of ferrous and miscellaneous scrap arising from integrated steel pants, engineering companies, refineries, power plants, coal and transport sector, defence and other government departments as well from private sector organisations in the domestic market.

Other divisions of MSTC LIMITED

System group division has now become the heart of corporation's day to day activities as the most of its business run on internet and e-commerce. This division was established in the year 1997 and with the introduction of e-commerce in the year of 2003 , it has become major and vital department in corporation's functions. This department has acquired state of the art infrastructure to meet its high end and large number of e-commerce transactions daily. With its own high end servers placed at Kolkata and are being operated by highly efficient, qualified and committed manpower at Kolkata. The total electronic data processing infrastructure is being guarded by bio-metric sensor security system to maintain safety and security of the data for total electronic commerce transaction. The department functions round the clock to support its 24X7 electronic commerce services being offered to its clients (e.com, 2008). All the electronic commerce services of MSTC LIMITED are certified as ISO

27001:2005 and ISO 9001:2000 Company (msteindia.co.in). The essential tools like digital signature etc., as per the directives of ministry of corporate affairs in India, have been introduced for e-procurement services. The suppliers are helped to obtain the digital signature through various website like <http://www.safescrypt.com>, <http://www.idrbtca.org.in>, <http://www.tcs-ca.tcs.co.in>, <http://www.mtnl-trustline.com>, <http://www.icert.gov.in>, <http://www.ncode-solutions.com>

The division is headed by Assistant General Manager (AGM-Systems) with a team of 10 executives specialised in IT and ICT at Kolkata and approximately 12 executives are actively engaged at various regions and branches. The corporation is also maintains a disaster management server at its western regional office at Mumbai for back up of e-commerce data during disaster. The company website operates at a bandwidth of 40 MB leased line to suit the fast web transactions.

The corporation also has a **management services division** which provides the operational divisions regular feed back on market research for sharing the same with the principals (sellers) which helps them in fixing the minimum required price for selling their items.

MSTC LIMITED's **e-commerce division** is now become popular among the trading community with its wider range of activities like, electronic auction, electronic procurement, electronic booking of coal etc. The electronic commerce services are certified as ISO 27001:2005 and ISO 9001:2000 company. The introduction of electronic auction for scrap sales in MSTC LIMITED has brought revolutionary changes to the growth of MSTC LIMITED performance and its brand value. The brief description of each sub functional departments in electronic commerce is stated below.

Electronic Auctions division

The application of e-commerce was first utilised by MSTC LIMITED for conducting forward auctions, that is e-auction for Scrap sales, which is corporation's major business activity across the country (www.mstceauction.com). The concept of e-auction has been developed and introduced in the year 2003 by a group of the efficient employees with collaborative effort of some private web developers. Electronic auction has become very much successful business model for sale of scrap, and almost 90% of total scrap sales is done through e-auctions. MSTC LIMITED electronic auction module has become very popular in scrap fraternity and did develop more than 10,000 plus permanent buyers and 250 sellers base to register in our site. Registration as buyer and seller is an ongoing process in MSTC LIMITED.

The division is headed by CGM (Operations) and around 150 employees are engaged in day to day e-auction sale activities. The total turnover of the e-auction is US \$ 331.12 million during 2008-09. MSTC LIMITED has been offering electronic auction services to various

public sector undertakings, government departments and few of private industries and this has proved to be a big success, starting with a sale figure of US \$ 13.25 million during 2002-2003 which is the year of introduction of electronic auction and reaching a sales figure of US \$ 331.12 million in 2008-09, i.e. in about six years time from the date of launching the e-auction service.

E-Procurement division

Encouraged by the success of MSTC LIMITED e-auction services, the corporation has ventured into e-procurement services with state of art infrastructure and systems. Presently, MSTC LIMITED is offering 4 modules for e-procurement to fulfill the various requirements of different buyers mostly from the public sector undertakings: (i) e-tender, (ii) e-tender with multiple bid, (iii) reverse e-auction with price bid and (iv) Reverse e-auction with quantity and price bidding (www.mstcecommerce.com). At present e-procurement services are centralized and being operated from head office at Kolkata and it is planned to de-centralise and will be operated across the country through its regions and branches. This division is headed by Chief General Manager (Operations) with a team of 4 members. The services are so far availed by major giants like Coal India Limited (CIL), Bharat Petroleum Corporation Limited (BPCL), Manganese Ore India Limited (MOIL), Neyveli Lignite Corporation Limited (NLC), and other public sector undertakings. Total business volume for this division in the last fiscal is US \$ 103.48 million.

MSTC LIMITED is planning to invest heavily in electronic procurement services and as the most of the procurement business will be converted to electronic mode. Taking the advantage of success experienced by MSTC LIMITED in the e-auction business, it has launched e-procurement portal for serving the existing sellers in the e-auction as buyer in the e-procurement.

Electronic booking of coal division

This division looks after the sale of coal to non-core sector, that is secondary sector, as per the directives of government of India. Under this scheme coal sale is open to privately owned industries and other retail users. In India, mining of coal is restricted to government companies as it is a national resource and asset to the government. So the sale of coal is offered on behalf of coal producing companies like Coal India Limited and its several subsidiary companies throughout India and The Singareni Collieries Company Limited in the state of Andhra Pradesh. The sale is done through online electronic auctions by employing popular and government approved modules. The pre-registered and pre-qualified buyers will be allowed to participate in the electronic auctions and the entire sale is based on cash and carry basis.

Corporation has started this business in the year 2005-06 and achieved a phenomenal business volume of US \$ 1.03 billion which contributes approximately 40% of the total turnover of

MSTC.LIMITED. With the introduction of coal sale, the corporation's turnover and net profit has gone up considerably and helped the organization to get up-gradation to schedule-B company from schedule-C among public sector undertakings.

Besides MSTC LIMITED, Metal Junction Services Limited, one of the competitors of MSTC LIMITED, which is a similar e-service provider and a joint venture of Steel Authority of India Limited and TATA steel, also provides the electronic auction sale for coal amounting to 50% of non-core sector coal offered by government of India. It needs to be appreciated that MSTC LIMITED being a public sector competing with a private sector organization and able to bring out the good results at par.

Finance division

This division is headed by a General Manager (GM-Finance) and managed by highly qualified chartered and cost accountants. This division consists of central accounts, establishment accounts, trade accounts, internal audit division and division dealing with sales tax matters etc. Finance and accounts division offers constructive advice regarding all financial matters of company.

Personnel and administration division

Third division, Personnel and Administration is headed by General Manager (Human Resource Development) who is also in-charge of the legal matters of the company. Personnel department is actively involved in the process of recruitment, training the recruits, placements, mid-career training, promotions, transfers and other related personnel activities. Administration department looks after general administration, house keeping, development of infrastructure needed for company's operations and functioning including purchase of office equipments etc.

The training division arranges various management development programmes for its officers in order to acquire sufficient knowledge about latest management techniques and also imparts training in their area of operations. Corporation invests a lot on management development programs as per the memorandum of understanding signed with government. Company's executives are being sent to Indian Institute of Management (IIM)-Kolkata, one of the premier business schools in the country. Non-executive employees are trained in handling the computers and its operational aspects. Few potential executives in the middle level are being sent to foreign countries with full sponsorship to participate in the international MBA programs to develop their skills so that they are well equipped to face the future challenges.

Geographical network of offices

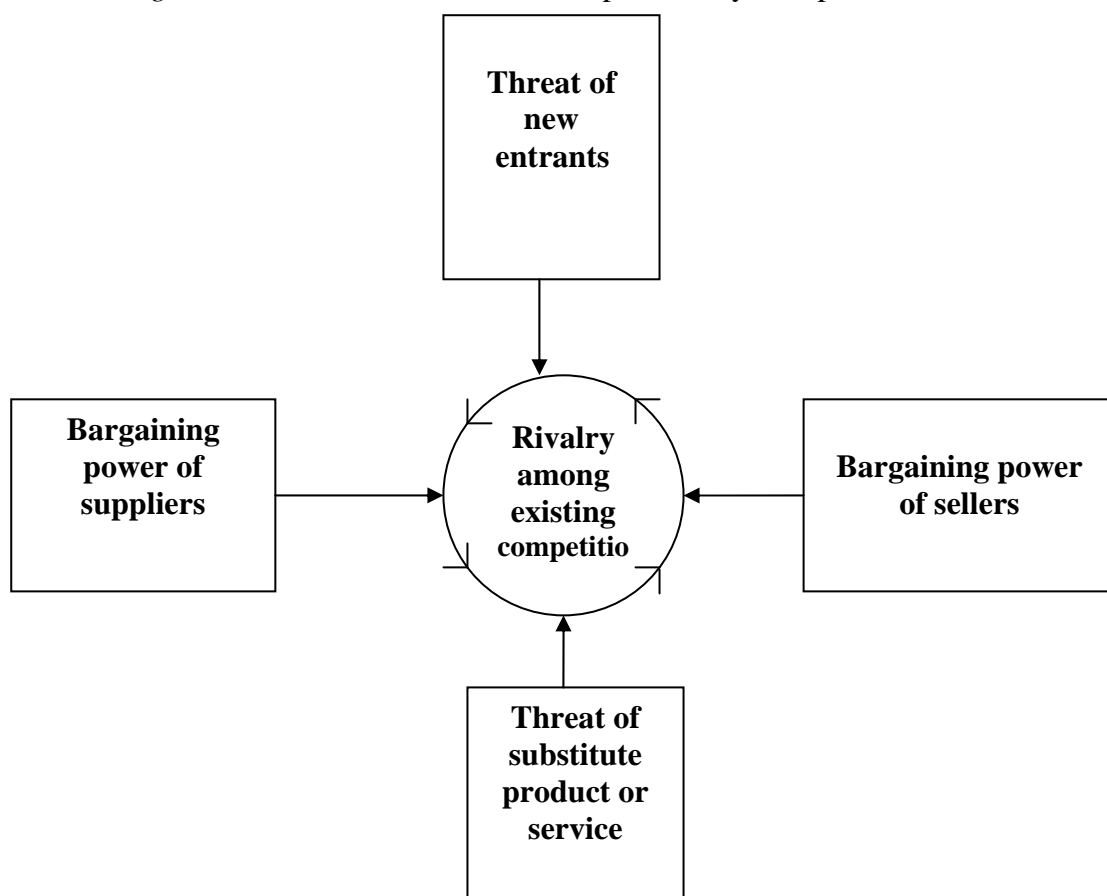
The Company's registered and corporate office is located at Kolkata and it has four regional offices at Kolkata, Delhi, Chennai and Mumbai. Besides, the company has branch offices at

Bangalore, Visakhapatnam, Vadodara, Bhopal and also some site locations. MSTC LIMITED with its network of 12 offices all over India, and its policy of operating on a very small margin could attract many business communities to utilise the services of MSTC LIMITED and creates a win-win situation for both MSTC LIMITED and its customers. With its immense experience and expertise in the international trade arena, it is in a better position to help Indian users of imported raw materials to procure such material with the most economic prices to keep sustainability in the industry. Of late, MSTC LIMITED has emerged as a major player in the country for promoting electronic commerce. Its electronic auction portal has become popular tools for transacting business over the internet in a transparent manner. Electronic procurement system applies user-friendly electronic commerce technology to simplify and streamline purchase process and to integrate processes of buyer as well supplier.

4.2 Porter's industries competitive advantage analysis

The industries competitive advantage of a company can be determined by analysing five forces as suggested by Porter (1979) which is depicted in Figure 4.1. The analysis can be readily extended to understand the challenges facing a potential entrant. Before going in for analysing MSTC LIMITED for its competitive advantage, it will be appropriate if its core competencies are analysed at least in brief.

Figure 4.1. The Five Forces that Shape Industry Competitiveness



Source: Porter (2008). Industries Competitive Analysis. Harvard Business Review January 2008, pp.79-93

Core competencies of MSTC LIMITED

MSTC LIMITED, being a public sector and star trading house, it has gained expertise in dealing with the disposal or marketing of industrial waste. Mostly the transaction is with another firm rather than an individual. Over a period of more than four decades, it has used its skilled work force in transforming these wastes into wealth for the public sector undertakings and government of India departments. Over the period, the data base could be built making different sections of buyers for different kinds of industrial wastes. It could exploit the opportunities coming forward in the wake of booming information and communication technology. It has made a pioneering relationship with both buyers and sellers.

Starting with the scratches of collection and selling of industrial wastes arising from integrated steel plants, it passed through the long path of exports of steel scrap and then acting as canalising agent to government of India in the matter of import of heavy melting scrap, carbon steel melting scrap etc., It also acted as canalising agent for purchase of foreign flag old ships for demolition. On decanalisation of above operation, MSTC LIMITED had to face stiff competition with the buyers to whom it was selling the raw materials during the canalisation period. Those rosy days turned down and pushed the company into thorny storm. Company had taken all possible steps to recover from this disaster. MSTC LIMITED could successfully implement the turnaround strategy to recover the company from the paralytic effect of decanalisation during 1997. On applying the technological advantage of electronic commerce, the company could make a pioneering advancements in electronic auctions and electronic procurements. Electronic marketing of coal has also taken an impressive growth.

While analysing MSTC LIMITED for its core competence, many factors contribute for the same. The foremost point to state in this aspect is that, this is the only company in the organised sector dealing wholly on the marketing of industrial obsolete inventories except one. It is the only public sector whose core activity is disposal. It commands for its market share of more than 40%. As it was acting as the canalising agent of government of India, it involved in the import of thousands of millions of tonnes of steel scrap over more than a decade. This made its reputation, command, and its omnipresence still in the international arena. It keeps importing not only steel scrap but also extended its baskets to coal, naphtha, super kerosene oil, Zinc metals, jewellery etc.

It has a dedicated and skilled work force and company spends a sizeable portion of its income for training the work force so that they are well equipped to face the toughest of the toughest competition. It could make value addition in the supply chain as is the basic necessity for any intermediary and could slowly built its brand image. The threat of disintermediation is foreseen and the company is well prepared to meet such eventualities too.

It will not be out of place if I mention the well established network of offices placing themselves geographically strategic locations to serve the clients on better way and also

placing themselves in the port towns to take care of imports and exports, serves as its core competence. It is a virtual market place where one can buy and sell any product or service. MSTC LIMITED has the capability of evolving and extrapolating the market trend for various conventional as well unconventional items and it has the capacity of offering clues about the market trends (refer to Appendix-H for demand and supply of raw materials).

Analysis of MSTC LIMITED in view of Porter's five forces

Now let us apply the concept of Porter to MSTC LIMITED and analyse how the five forces affect the competitiveness and profitability of the company. We may also analyse how the internet or e-commerce influences this industry.

1. Threat of new entrants-low

New entrants to an industry typically bring to it new capacity, a desire to gain market share, and substantial resources. Therefore, they are threat to an established company. The threat depends on the entry barriers. Entry barrier is an obstruction that makes it difficult for a company to enter an industry. In case of MSTC LIMITED, economies of scale, high product differentiation, strong brand image and high switching cost stand in the way of new entrants as obstrucles and barriers which are favourable to this company (see Table 4.1).

Table 4.1. Porter's Five Forces- Threat of New Entrants for MSTC LIMITED

Factors favourable to the company	Factors unfavourable to the company
1. Economies of scale 2. High product differentiation 3. Strong brand name 4. High switching over cost	1. Easy access to the distribution channel 2. Internet applications are difficult to keep proprietary from new entrants 3. A flood of new entrants have come to this Industry

Source: Own.

On the other hand, easy access to the distribution channel, non-proprietary nature of internet and large number of entries make way cleared for new entrants. Therefore, both the sets of factors make a balance on both the sides with a very little weight over the favourable side of the company.

2. Rivalry among existing competitor-moderately high

In most of the industries, companies are mutually dependent on their business relations. A competitive move by one firm can be expected to have appriciable effect on its competitors and it may cause retaliation and counteractions (see Table 4.2).

Table 4.2. Porter's Five Forces- Rivalry among Existing Competitors for MSTC LIMITED

Factors favourable to the company	Factors unfavourable to the company
1. Only one large competitor 2. Moderate product differentiation 3. Amount of fixed cost is moderately high .	1. Widens the geographic market, increasing the number of competitors 2. Seller can also start the process 3. High industry growth 4. Migrates competition to price

Source: Own.

Considering the factors as tabulated above, the rivalry among the existing competitor is moderately high for MSTC LIMITED. Inspite of high growth in the industry, it is vastly shared by many of the likely new entrants which nullifies the effect.

3. Threat of substitute –moderately low

Substitute is a product which appears to be different but can satisfy the same need as another product. In case of disposal or marketing, there can not be much cheaper and fair mode than electronic marketing and there appears to be less chance for substitute (see Table 4.3).

Table 4.3. Porter's Five Forces- Threat of Substitutes for MSTC LIMITED

Factors favourable to the company	Factors unfavourable to the company
1. No cheap substitute products 2. By making the overall industry efficient, the internet can expand the market	1. Few substitute products such as the sellers themselves establish portal and do e-marketing 2. The proliferation of internet approaches create new substitution threats

Source: Own.

But if we consider on the other hand that the sellers themselves can establish the portal and start the electronic marketing of industrial waste arising from their industry on their own as in the case of other prime materials.

4. Bargaining powers of suppliers (seller in case of MSTC LIMITED)- moderately high

Suppliers can affect an industry through their ability to raise prices or by reducing the quality of supplied goods and services. There are more than 200 public sector undertakings on behalf of whom this company undertakes electronic marketing activities and they are geographically separated and scattered through out the country. But each one of them are big, strong and powerful. Generally, they would like to concentrate on their core activities and entrust the marketing activities of industrial wastes to MSTC LIMITED. Considering considerable legal

wrangles involved in these activities and taking into account the expertise this company possesses, it is greatly in favour of the company (see Table 4.4). MSTC LIMITED is keeping a comfortable business relationship with the suppliers (sellers) which also speaks in favour of the company in study.

Table 4.4. Porter's Five Forces- Bargaining Powers of Suppliers for MSTC LIMITED

Factors favourable to the company	Factors unfavourable to the company
<ol style="list-style-type: none"> 1. E-auctioning of unwanted and excess inventories is not the suppliers' core activity 2. Sellers face with procedural and legal wrangles 3. Sellers always inclined to MSTC LIMITED as being a public sector 4. Relationship with the suppliers (sellers) is strong and the company could retain all with very meagre backout rate 	<ol style="list-style-type: none"> 1. Suppliers (sellers) are many and fragmented but big and strong 2. Forward integration is possible 3. Based on the business environment on their industry, the sellers may turn down and go against MSTC LIMITED

Source: Own.

Any adverse changes in the business environment of the seller's industry will have direct impact on this company as they may resort to forward integration.

5. Bargaining powers of buyers- low

Depending upon the size and strength of buyers, they could make curtail formation and syndicates and thereby force sellers to bring down the prices of the products offered for sale.

Table 4.5. Porter's Five Forces- Bargaining Powers of Buyers for MSTC LIMITED

Factors favourable to the company	Factors unfavourable to the company
<ol style="list-style-type: none"> 1. Many small and big buyers scattered through the country 2. Foreign buyers too 3. Forward integration of the buyer is difficult 	<ol style="list-style-type: none"> 1. Mix of highly educated and least educated 2. Financially moderately sound 3. Customer relationship management appears to be poor and hence customer turnover is considerably high.

Source: Own.

They also demand improved quantity and quality of the products and services which will bear on the cost and brings down the profit of the sellers. Buyers of product/services of MSTC LIMITED are mostly small but many in number. Handsome of big buyers are also dealt with this company. In the global tenders and electronic auctions, buyers of cross border also take

part. While above points make favourable impact on the company, the unfavourable factors are very limited. Therefore it is assessed that bargaining powers of buyers are low. However, MSTC LIMITED can not afford to forget their poor relationship with their buyers which needs to be improved emphatically to sustain in the industry. Their status of public sector undertaking can not always sustain them in the industry.

On systematic analysis of MSTC LIMITED in terms of five forces of strategy put forth by Micheal E. Porter, it appears that while threat of new entrants and bargaining power of buyers are low, the other three forces are stronger against the company. Thereby MSTC LIMITED is not placed in an advantageous position in the industry. But it is not a big threat to the company and a prudent analysis of the situation can find ways to remove the hurdles and place the company in advantageous position.

4.3 Burton's five sources of collaborative advantage

The established method of analysing an industry is the Porter 'Five forces of competitive advantage' framework. As more of a firm's activities are delivered through alliances, a need has arisen to supplement competitive advantage with collaborative advantage. Burton's (1995) composite strategy provides a 'Five sources of collaborative advantage' framework and together these analysis frameworks allow the incorporation of collaboration into industry analysis and a resulting mutually-reinforcing strategy leading to increased competitive advantage.

Therefore the following collaborative combinations are worked out by Porter and Burton which yield complement to the industry.

- Bargaining power of suppliers + relational contracting and quasi-integration of suppliers,
- Bargaining power of customers + partnering with channels/buyers,
- Threat of new entrants+ prospective diversification alliances,
- Threat of substitute products or services+ related diversification alliances,
- The industry jockeying for position among current competitors+ horizontal strategic alliances.

If collaborative combination yields more weightage when compared to the yield of such individual forces, then such composite force is considered for the advantage of the industry.

In view of the collaborative sources of Burton and Porter, collaboration with the suppliers, here the sellers, needs to be considered as the bargaining power of suppliers is moderately high. Collaboration with customers (buyers) will lead to disadvantage to the company as the bargaining power of buyers is low. The third case of collaborating and partnering with new entrants do not bring advantage to the company and hence it needs to be ignored as because the threat of new entrants is assessed at low. The fourth case of threat of substitute is also low.

But the last factor of threat of existing competitor is moderately high. By considering collaboration with the existing competitors is expected to bring number of advantages to this company.

Therefore, MSTC LIMITED has two strong threats. One with the suppliers and another one with existing competitor. These two threats can be converted in company's favour if it makes proper collaboration as suggested in the model of Burton. To have collaboration with suppliers, it is suggested that MSTC LIMITED may strike to strive strategic joint ventures with the few of the suppliers. This will bring more operational and financial strength to company.

With respect to the threat of existing competitor, the lone competitor in the organised sector is Mjunction Services Limited. Others are appeared to be tiny and unorganised. Mjunction being a lone competitor in the organised sector, MSTC LIMITED should eye on this competitor for the opportunity of aquisition and MSTC LIMITED should not try for merger with this competitor as the former is in much advantageous position. To say on straight terms MSTC LIMITED should look into merger and aquisition and strategic joint ventures in order to gain and to sustain in the industry.

4.4 Electronic auctions of MSTC LIMITED

At present MSTC LIMITED sells scrap and obsolete stores, spares, capital equipments worth around US \$ 0.33 billion per year through electronic auctions on behalf of various public sector undertakings and government departments. Private sector's contribution is negligible. Besides, it sells coal from various coal subsidiaries of Coal India Limited to the tune of roughly one million tonne per year. It also sells diamonds on behalf of National Mineral Development Corporation Limited as well confiscated diamonds of Customs department, Mumbai. The modus operandi followed by MSTC LIMITED for this purpose is to put only a selected number of items on auction, which can be offered on a regular and sustained basis to initiate drive to register actual buyers of the item for permanent registration. Advance notice of selling events is sent by e-mail to the registered customers. Auctions are thereafter held on pre-announced date and time.

Some of the unique features of the e-auction system are :

- Permanent registration of coal buyers - thereby ensuring that information about forthcoming sale events is made known. Customers get information only about items of their choice,
- Before the auction starts, either floor price or reserve price is fed into the system by the stock-holder (Principal),
- If the highest price exceeds floor price or the reserve price as the case may be, then automatic sale intimation letter is issued by the system without any manual intervention making the system transparent,

- The auction continues even beyond the stipulated closing hours until no bid is received for a specified period of time (5 to 8 minutes depending upon the item).

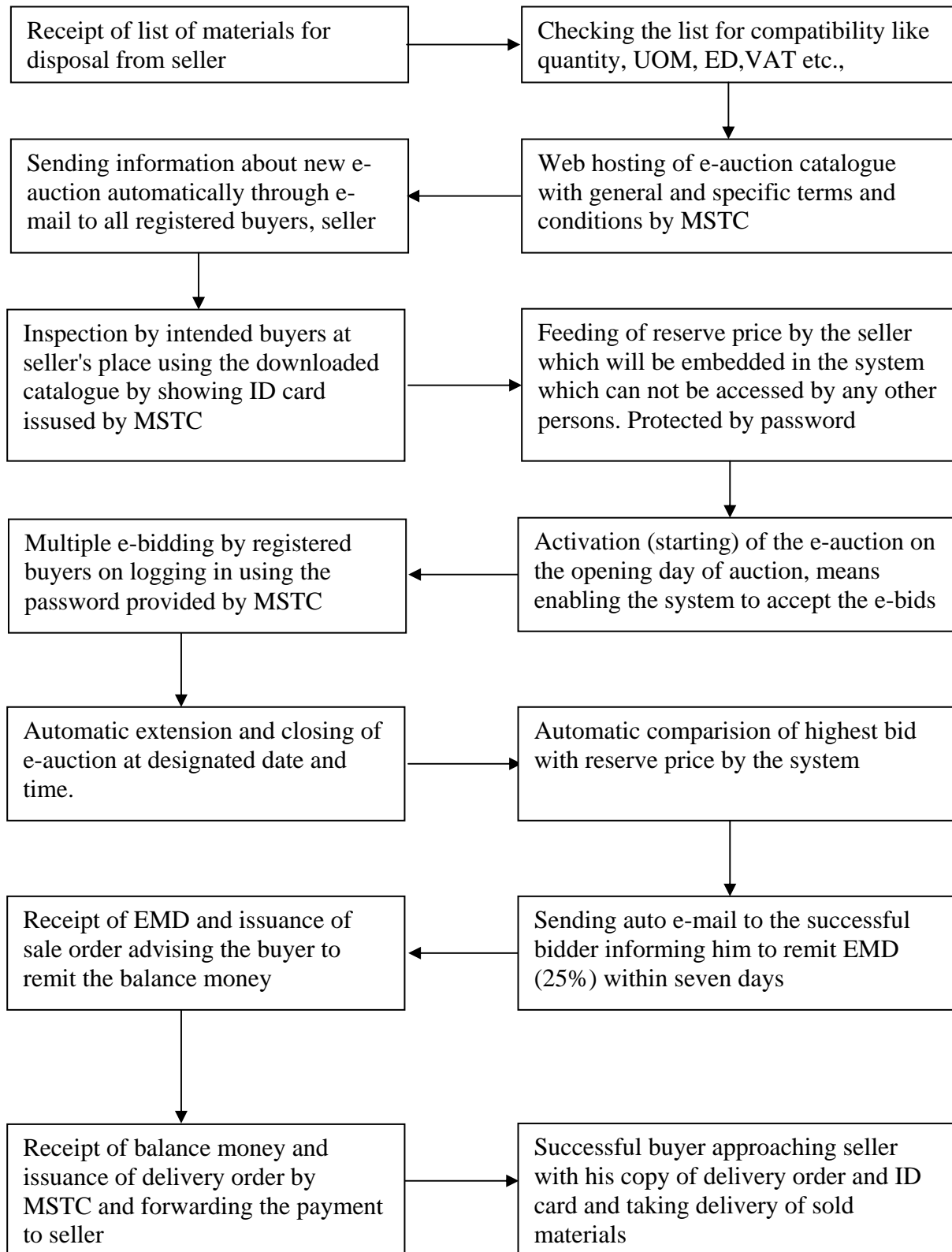
Buyers of scrap, obsolete and surplus stores/spares and capital equipments or coal or diamonds can register themselves online in the company's portal: www.mstcecommerce.com as buyer by selecting the buyer type as scrap and others. Those buyers who intent to participate in the electronic auctions of manganese ore and iron ore, should select the buyer type as manganese iron ore. For details of the registration procedure, the customers are directed to go to the home page of MSTC LIMITED's e-auction website <http://www.mstcecommerce.com>. To facilitate depositing earnest money deposit (EMD), security deposit, balance payment etc. customers are facilitated to avail electronic banking services. For more details, they can click radio button of electronic banking in the home page of www.mstcecommerce.com where the complete details are displayed or mail to mstc@mstcindia.co.in.

The entire process of electronic auction is depicted diagrammatically in Figure 4.2. It can be seen from the process flow diagram that the entire activity has been carried out electronically. On receipt of the list of items to be sold from the seller, MSTC LIMITED checks for the availability of complete information like description of the items, quantity, location, applicability of excise duty, the applicable rate of value added tax, the person to be contacted for inspection including his phone number and e-mail address etc. Auction is hosted in the website and press advertisement is also being released simultaneously.

With the help of auction catalogue and the identity card issued, potential buyers can inspect the items and assess themselves about the price to be offered. The seller feeds the minimum price of the item above which the item gets sold. On the designated date, auction will be activated and it is now ready to accept the bids. The auction gets closed at the designated time if there is no bid in the last eight minutes. System compares the highest bid with the minimum price (which is embedded) automatically and declares the results.

The successful bidder is intimated through e-mail generated automatically by the system to pay the sale money. The payment is forwarded to the seller along with an advice for delivering the item to the buyer. Buyer approaches seller with a copy of his delivery advice and photo identity card issued to him and takes delivery of the sold item. It can be seen that each and every stage the information is flowing electronically to make the process easier and faster. Seller sends the details of items to be e-auctioned through e-mail. Once auction is hosted, new e-auction intimation goes to registered customers automatically through system generated e-mail. After electronic bidding is over, the system itself takes decision whether to reject the highest bid or to accept the same based on inbuilt program and reserve price which is already embedded in the system. The successful bidder is intimated to make payment by automatically generated e-mail. All these events can be viewed with seller's login also.

Figure 4.2. Process Flow Diagram of E-auction



Source: Own.

The impact of auctions can be briefed in the following few lines:

Auctions as a coordinating mechanism: Auctions are used increasingly as an coordinating mechanism for establishing a price equilibrium.

Auctions as a social mechanism to determine a price: For items that are not traded in traditional markets, such as unique and rare items, or for items that may be offered randomly or at long intervals, an auction creates a marketplace that attracts potential buyers. By offering many of these special items at a single place and time and by attracting considerable attention, auctions provide the requisite exposue of purchase and sale orders. By this one can find an optimum price at which the unique or the special item can be liquidated.

Auction as a highly visible distribution mechanism: Some auctions deal with special offers. In this case, a supplier typically auctions off a limited quantity primary to attract and test the market. Mainly this is to attract the bargain hunters and auction gamblers.

Auction as dynamic pricing mechanisam: A major characteristics of auctions is that they are based on dynamic pricing. Dynamic pricing refers to prices that are not fixed but that are allowed to fluctuate as per supply and demand in the market. In contrast, catalogue prices, listed prices are fixed and the customers have to buy at that prices.

4.5 Electronic procurement in MSTC LIMITED

Under the twin pressure of globalization and liberalization Indian industry has been on a relentless drive for cost reduction. Supply-chain management has been globally recognized as one of the areas, which can contribute effectively to cost reduction. MSTC LIMITED has been offering e-marketing services to various PSUs, government departments and other industries and this has proved to be a success, reaching a sales figure of US \$ 0.52 billion in 2008-09, i.e. in about four years time from the date of launching the service. Encouraged by the success of our e-marketing service, MSTC LIMITED has now launched its e-procurement service with state of art infrastructure and systems.

E-procurement applies user friendly e-commerce technology to simplify and streamline the purchase process and to integrate buyers with the suppliers' business processes. It is an efficient process which eliminates paper work and human intervention and also aims to eliminate any possibility of irregularities. This also enables total transparency in the system.

The direct benefits include reduction of price of purchase, improved contract compliance, reduced administrative cost, visibility of customer demand, reduction of inventory cost and procurement cycle time. It is needless to mention that the intangible benefits viz. analysis of supplier data, performance, market situation and others, besides the intangible but significant benefits by way of increased confidence of the vendors due to the transparency of the

operations accrue to the buyers. Presently, MSTC LIMITED is offering 4 models for e-procurement to fulfill the various requirements of different buyers:

- **E-tender:** Physical system converted in to electronic tender. Buyers can decide eligibility of vendors. Eligible vendors can quote from any place over internet. Buyer has the option of obtaining techno commercial bid manually or over internet. The price bids will be seen only at the appointed hour after closing.
- **E-tender with multiple bid:** Same as above. In addition, the vendors may revise their price bid any number of time before the closing time of price bid.
- **Reverse e-auction with price bid:** This is reverse of forward e-auction. Buyers can decide the eligibility criteria of vendors. Techno commercial bid can be obtained manually or over internet. Only the vendors fulfilling the techno commercial criteria can participate in price bidding, which is progressively lowered by the bidders.
- **Reverse e-auction with quantity and Price Bidding:** Same as above. In addition to price, vendors can bid the quantity they desire to supply.

Some of the unique features of the portal: Registration is free of cost. Purchaser/suppliers can generate their own user name and password and they can use help desk for assistance. All the registered suppliers are informed about the programme by auto electronic mail. Buyers/purchasers are to register with the portal. Buyers/purchasers can select from the above models. Customization, if any, required for any buyer can be done in short time. Buyer/purchaser has the flexibility to get techno commercial bid online or offline. After the closing of bidding, buyers can see the comparative statement of techno commercial bid with their user name and password. On approval of techno commercial bid over internet by the buyer, comparative statement of price for the approved vendors will be generated automatically. All the pages are password protected to ensure confidentiality. If the buyer so desires the comparative statement may be permitted to be viewed by the participating vendors. Digital signature and encryption of data will ensure strict compliance of Central Vigilance Commission guidelines.

All the suppliers need to be registered online with the portal. They also have to submit few documents for authentication. Eligible vendors can participate in the programmes online from anywhere after following certain standard procedure of e-procurement.

Integrity Pact is a special drive by all government companies, with agreement to Transparent International, a non-governmental organisation (NGO), to increase transparency in the contracts. Government of India made it mandatory by adapting a statute. It is the public procurement that most of the grand corruption occurs with much of the damage visibly inflicted upon the development process in poorer countries and countries in transition. Integrity pact is a process in which voluntary agreements are made, involving bidders and the government, to restrict opportunities for corruption in a particular project. The goal of the

integrity pact is to reduce any chances of corrupt practices during procurement through a binding agreement between the agency and bidders for specific contracts.

As electronic procurement involves huge financial transactions, MSTC LIMITED commits itself to take all measures necessary to exhibit transparency and also to prevent corruption. In this direction following principles are observed:

- MSTC LIMITED may appoint competent and credible external independent monitor for its pact. In such case the task of the monitor is to review independently and objectively whether and to what extent the parties comply with the obligations under this agreement.
- The monitor is not subject to instructions by the representative of the parties and perform his functions neutrally and independently. He reports to the chairperson of the board of MSTC LIMITED.
- The monitor has the right of access without restriction to all project documentation of MSTC LIMITED. The vendor will also grant the monitor, upon his request and demonstration of valid interest, unlimited access to his project documentation. The monitor is under contractual obligation to treat the information and documents of the buyer and vendor with confidentiality.
- MSTC LIMITED will provide to the monitor sufficient information about all meetings among the parties related to the project provided as meetings could have an impact on the contractual relationship between MSTC LIMITED and the vendor in such meeting.
- As soon as monitor notices, or believes to notice, a violation of this agreement, he will so inform the management of MSTC LIMITED and request the management to discontinue or heal the violation, or to take other relevant action. The monitor can in this regard suggest non-binding recommendations. Beyond this, the monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- The monitor will regularly submit a written report to the chairperson of the board of MSTC LIMITED and, should the occasion arise, submit proposals for correcting problematic situations.
- If the monitor has reported to the chairperson of the board a substantiated suspicion of an offence under relevant anti-corruption laws of India, and the chairperson has not within reasonable time, taken visible action to proceed against such offence or Vigilance office, the monitor may also transmit this information directly to the Central Vigilance Commissioner, government of India.
- This pact begins when parties have legally signed it. It expires for the vendor twelve months after the last payment under the respective contract, and for all other buyers, six months after the contract has been awarded.
- This agreement is subject to Indian law. Place of performance and jurisdiction is the location of the corporate office of MSTC LIMITED.

Concerned authorities may report any violation of the general terms and conditions to the dealing department.

4.6 Customer relationship management in MSTC LIMITED

MSTC LIMITED is a service organisation and working as an intermediary with its electronic marketplace for public sector undertakings and government departments as sellers and private businesses such as small and medium enterprises (SMEs) as buyers. As an intermediary, its business relationship with both sellers and buyers counts largely in its existence.

Customer acquisition, the foremost activity in the customer relationship management, in MSTC LIMITED connotes acquisition of both buyers and the sellers. It is possible if the existing buyers and sellers receive and enjoy the best services from this company. The existing buyers and sellers are expected to disseminate the good and positive nature of the services of MSTC LIMITED to their business fraternity which will have an impact in acquisition of new buyers and sellers. Mostly it might be true in case of this company and its services and it is evident from the buyer registration for participating in the electronic auction conducted by MSTC LIMITED. The advertisements released in leading news paper and the periodicals and road shows arranged by the management are found to be major attractions in enrolling new buyers and sellers. For MSTC LIMITED, addition of new sellers to its electronic marketplace will bring more and more new customers who may exclusively dealing with them in the purchase activities. It is evident in normal course that whenever new seller is added to its auction portal, an array of buyers approach MSTC LIMITED for enrolment as buyers. It may so happen due to sheer demand generated by adding a seller and not due the best services being accorded by MSTC LIMITED to its customers.

Customer retention, the second activity in the customer relationship management, is possible not only just because of better customer services but also it needs other offering like free bees, incentives, rebate on bulk purchase etc. These are not possible directly by MSTC LIMITED because of its very nature of intermediary as far as domestic market is concerned. Of course, the sellers also find it difficult to distinguish and offer such benefits since such facilities need to be built in the software of the portal. But MSTC LIMITED is able to offer such benefits in case of sourcing of industrial raw materials by imports where such bulk buyers can negotiate with MSTC LIMITED in order to get reduced service charges.

Customer expansion, the third but not the last in the customer relationship management activities, is to expand the existing customer. This means the existing customer should increase the purchase quantum with the company. This happens if the existing customers are happy with the services provided, the cordial relationship and congenial approach of the service provider. Out of the relationship and purchase, if the buyers are able to make profit and create wealth, they will continue with the purchase process and their long stay with the

company will expand the business of the company. If the product offered by the sellers are more and more attractive, it will also lead to increase in the purchase quantum.

It is the general observation of the researcher that any customer is related closely with MSTC LIMITED while the dispute arising out of the business activities is settled to the full satisfaction of the customer. To strengthen the customer relationship, the employees are to be polite in dealing with the customers and the queries are to be answered within reasonable time limit. Diligent care is to be taken in settling the dispute taking cognisance of the prevailing terms and conditions of particular transaction.

MSTC LIMITED as electronic hub (e-Hub)

Kaplan and Sawhney (1999) define electronic hubs as neutral internet-based intermediaries that focus on specific industry verticals or specific business processes, host electronic marketplaces and use various market making mechanisms to mediate any to any transactions among businesses. They argued that electronic hubs create value by aggregating buyers and sellers, creating marketplace liquidity, and reducing transaction costs.

There is one other dimension that is important in describing a business-to-business hub, its bias. Business-to-business hubs can be either neutral or biased. Neutral hubs do not favour buyers over sellers or vice versa. Many of the hubs are neutral in nature. Biased hubs, in contrast, favor either buyers or sellers. Neutral hubs, by definition, are faced with a chicken-and-egg problem, in that they need to get buyers as well as suppliers into their system, without compromising their neutrality. They need to be careful in investments from large buyers as well as from large suppliers, because they can be perceived as biased. The benefit that neutral hubs have is that they are true market-makers, because they bring both buyers and sellers together without bias.

There is another category of hubs that are one-sided and biased by design. These biased hubs either work for sellers or buyers, and help them to negotiate better terms or streamline the buying and selling process. Biased hubs (like neutral hubs) can occur both as aggregators in systematic markets and as matchers in spot markets. When they favour sellers, biased hubs act as forward aggregators or forward auctioneers.

MSTC LIMITED carries out all the functions of an electronic hub. It enrolls and registers the buyers as well as sellers and brings them to a common platform of electronic marketplace. It arranges for the meeting of both the sellers and buyers to take part in the cordial business negotiations. The sellers and buyers are mostly business concern and hence business-to-business transactions. It acts neutrally to both buyers and seller without any bias and therefore MSTC LIMITED is a neutral electronic hub.

4.7 Data analysis on impact of electronic marketing in MSTC LIMITED

Wikipedia (2009) defines data analysis as a process of gathering, modeling, and transforming data with the goal of highlighting useful information, suggesting conclusions, and supporting decision making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, in different business. A systematic collection and analysis of data can provide valuable and generalized inference and information which can be used in making decisions or generalized conclusions.

Different types of data need to be collected for different purposes. Therefore the purpose of the study determines what type of data the researcher wants. These data are termed as primary data and secondary data depending on how these are collected. Before start collecting the data, the researcher should be clear about the purpose of such data. The data should be collected systematically and interpreted systematically to yield a better result. In the present case the purpose of the research is to study the impact of electronic marketing on business-to-business transactions. With this clear purpose, the researcher started designing the methodology of this study.

Study design

The goal was set out to use both qualitative and quantitative techniques in this study. The study is not restricted with the secondary data. Primary data were also collected. As MSTC LIMITED is an intermediary and an electronic hub having its electronic marketplace, the researcher attempted to collect the primary data through both the sellers as well as the buyers who are the users and beneficiaries of this electronic marketplace. In the opinion of the researcher, collecting data from either only from the sellers or only from the buyer will not surface the real nature of the problem the researcher is trying to investigate. Therefore the researcher collected primary data from both sellers and buyers which will be helpful in cross checking the inferences. A set of structured questionnaires connected with the problem to be studied have been prepared and the same were mailed to the sample population. The responses so received were compiled and analysed here.

Primary data

Primary data are the information collected directly from the source through observation, conversation, participation and/or questionnaire/ interview. The degree of reliability, validity, and precision required depends on how the data is intent to be used. Visitor response to surveys is one example of primary data. It is the information that have been collected first time for the specific purpose. The data which were collected earlier with different purpose can not form a part of it. In the presented study, the data were collected by way of sending structured questionnaires to the samples chosen and collecting the responses. Some oral

interviews were also conducted with the responsible officials of MSTC LIMITED and they could feed some valuable information which were also used in the study.

Secondary data

Secondary data are information collected by others such as government agencies and/or non-profit organisations that pertains to the area of interest. The degree of reliability, validity, and precision in secondary data depend on how it was collected and interpreted. In this study, secondary data were accessed through published periodicals, scientific and professional magazines, popular books, printed, and published reports. It was also accessed through internet by scanning and browsing through the world wide websites to get connected articles and relevant informations. Secondary data were also collected from the corporate portals of some of the related public sector undertakings and the websites of concerned ministries.

Selection of the sample

Sampling is the process of selecting units (e.g., people, organizations) from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen. While various methods of sampling are available, the researcher has choosen convenient sampling in order to get the data as quickly as possible. Convenient sampling is one in which the individuals who are easiest to reach are choosen for the study. In the mean time it will not have any deterrent effect on the purpose and generalisation.

Samples so choosen are directly connected with electronic purchase and electronic selling. Few buyers and few sellers in electronic auction were choosen meticulously. The choosen buyers are located extremely different directions to represent the factor of distance in the electronic commerce system. They are the manufacturers of different industrial products and thereby purchase different raw materials for their industries. This represents the varying nature of items being purchased through electronic auction. They also represent different type of companies such as proprietorship, partnership and private limited company.

Similarly when it comes to sample of sellers, they are industial gaints of government of India undertakings. One among the sellers' sample is the biggest contributor in generation of electricity in India in thermal power generation. The second giant is the manufature of boilers used in thermal power stations as well as gas power stations. Third one is the oil refinery.

Sampling is done on small basis as the collection of information from all the sources is simply impossible. The sampling was also choosen to have an overall representation with respect to location, small and big in terms of quantum of purchase, purchase and selling of different industrial inputs- actual users as well as traders. But it is more or less ensured that the sampling represents fairly the whole population so that the inferences and the conclusions

made come out with fair representation of whole population. The respondents of the buyers are the proprietors of the companies and the sellers companies are represented by senior managers in the stores department of the giant public sectors who are responsible for the whole activities of e-marketing of unwanted and excess inventories.

Designing the questionnaire

Before designing the questionnaire, the objectives and the purposes of the thesis were taken into account. Separate set of questionnaires were prepared for buyers and sellers. The questionnaire for buyers (placed in Appendix-G) contains three parts. The first part is for getting the profile of the buyer companies, second part containing questions dealing with benefits of e-auctions and the third and last part is designed for getting the details of difficulties faced by buyers in electronic purchase.

Differently, the questionnaire for sellers (placed in Appendix-E) contains four parts. The first part is intent to bring the profiles of the concerned public sector undertakings. The second part is designed to know the introduction of e-auction and quantum of materials sold. The third part of the questionnaire is designed in such a way that they could reveal the benefits by switching over to e-auctions from the traditional methods. The fourth and final part of the questionnaire is intent to surface the difficulties in e-auction system.

Similarly separate covering letter to the questionnaire of buyers sample (placed in Appendix-F) as well as sellers sample (placed in Appendix-D) were prepared explaining the purpose and the importance of their responses with a clear time frame for receiving their responses.

Response analysis

The questionnaires were mailed to the target population by electronic mail in order to reduce the time and the cost. It was followed up with them over phone and reminded by e-mails. One of my colleagues at India could also talk to them and helped me in getting the responses at the earliest possible. Responses in the form of filled in questionnaire were received back by e-mails from all six companies and hence the response rate was 100% percent. The respondents were shown the gratitude by calling them over phone and sending them e-mail expressing gratitude.

Analysis of profiles of the buyers

Buyer 01: Sunder steel industries is one of the biggest private sectors among the manufacturers of steel products in Visakhapatnam in the state of Andhra Pradesh in India. They own a steel re-rolling mill situated at the sub-urban area of the city. The company is a proprietorship firm and they are one of oldest and loyal customers of MSTC LIMITED. They purchase mostly steel scrap which will be suitable for re-rolling purpose to feed as raw

material in their mill. The other items purchased by them includes old plants and machineries, used marine vessels and crafts. Depending on the condition of the machineries, either these will be put into re-use after servicing or dismantled to generate scrap. If the market conditions are favourable, they do purchase other types of scrap for the purpose of further trading.

Buyer 02: Ghanshyam metal udyog is a proprietary firm located at Delhi and they are purchaser of non-ferrous category scrap such as copper, brass, zinc etc. They are traders and suppliers of non-ferrous scrap to non-ferrous metal industries. They purchase non-ferrous metal scrap from all regions and branches of MSTC LIMITED. Besides purchase through e-auctions, they purchase the materials through tenders too.

Table 4.6. Comparison of Profiles of The Buyers Sample

Name of the Buyer	Type of firm	Product	Purchase through e-auction	Annual Purchase
Sundar steel industries, Visakhapatnam.	Proprietorship	Steel products	Steel scrap and old machineries, marine vessels and crafts	5000 MT
Ghanshyam metal udyog, Delhi.	Proprietorship	Copper, brass, Zinc metals	Scrap of copper, brass and zinc	168 MT
Tanu petro chem product pvt. Ltd, Medak, Andhra pradesh.	Private Limited company	Idustrial lube oil and chemicals	Waste oil and used oil	2500 MT

Source: Survey conducted by the author.

Buyer 03: Tanu petro chem products private limited is a privately owned limited company engaged in the re-refining of used and waste oil. The unit is located in the industrial development area at Medak in the state of Andhra Pradesh. They re-refine the waste and used oil purchased through e-auction of MSTC LIMITED and produce industrial lube oil, base oil and other chemicals. In India, waste/used oil is a restricted item under the hazardous waste management and handling act. The industry should register with central and state pollution control boards and should comply with all the provisions of the act. They should get consent from the pollution control boards for not polluting water and air. The industry should be environment friendly.

Benefit analysis of e-marketing from buyer's perspective

Analysis of cost savings: From Table 4.7 response to Qn.No. 2.1, it is observed that all three responded affirmatively. Here the cost means cost of travel, cost of catalogues, reduction in

manhours, reduction in paper work etc. In the traditional methods of disposal like public tenders, the indenting buyers have to purchase the tender documents either by post or in person from the offices of MSTC LIMITED within working time of office by remitting the prescribed cost. After assessing the worth of the materials, they quote their price and drop in the box provided for this purpose along with earnest money deposit @5% on the quoted price. The tenderers have to wait till the offers are processed, evaluated and a decision is made. Generally this process takes an average of 60 days. During this period, their money is blocked and any changes in the market will be to the buyers' account. But in electronic auctions they need not to pay any amount towards auction catalogue which can be straight away downloaded. There is no restrictions on the time and no question of travel for this purpose. The bidders need not to make any pre-deposit and wait. They can bid in the e-auctions and remit the security deposite within a week's time if they are successful bidders. The decision of acceptance of highest bid is instant and spot decision by the sytem in-built unlike traditional methods. This is a method of cash and carry.

Table 4.7. Comparision of The Responses of Buyers Regarding Benefits of E-auction

Qn. No.	Factors	Buyer 01	Buyer 02	Buyer 03
2.1	Do you feel that there occurs cost savings with e-auction?	Yes. A little	Sometimes	Yes
2.2	Cost savings in terms of free online catalogue, travel, paper work etc.,: Rs. per year.	100000 (US \$ 2070)	Only paper work	----
2.3	Do you feel that sale price has increased or decreased on switching over to e-auction:	Increased	Increased	Once in fifteen days, prices are fluctuating
2.4	If the answer to 2.3 is 'increased', please state to what extent: % (approx)	10	----	----
2.5	If the answer to 2.3 is 'decreased', please state to what extent: % (approx)	----	----	----
2.6	Do you feel that entire cycle time for purchase in e-auction is reduced:If yes, to what extend: % on physical auction/ tender	75	30	----
2.7	Is the information provided on e-auction portal adequate to carry out your purchase activities:	No	----	----

(table continues)

(continued)

Table 4.7. Comparison of The Responses of Buyers Regarding Benefits of E-auction

Qn. No.	Factors	Buyer 01	Buyer 02	Buyer 03
2.8	Pl comment on the transparency of the system:	It is easy to quote without being seen and everything remains secret	---	---
2.9	Do you feel human interference in the vital and automated activities of the system: If yes, specify the part of activities:	---	No. Human interference not possible I think	---
2.10	Do you get your required documents from the system online: If not, what kind of additional reports would you like to have:	Yes	Yes. But if we want to get old e-auction catalogue what to do	Yes
2.11	Are you satisfied with the security features of the portal	Yes	Yes	----
2.12	Do you purchase any item through any other mode (other than e-auction) through MSTC:	----	Yes Through tender	No
2.13	If yes, name of the major Items:. Approximate quantity in MT: (2008-2009) Approx. purchase quantum in rupees: (2008-2009)	----	Non-ferrous metal scrap 260 MT 3,38,60,000 (US \$ 0.7 m)	----
2.14	In general, are you satisfied with the services of MSTC?: Pl. comment:.	Yes. Good e-auction portal	Yes	Yes No comments
2.15	What is your preferred mode: E-auction/ tender/ public auction/ tender-cum auction Please comment on why:	E-auction as it is easily accessible from office or home or anywhere	Tender I think this is better way to us	Tender There are few people participating in tender
2.16	Additional comments,if any:	----	----	----

Source: Survey conducted by the author.

Analysis of purchase price: In the auctions, the price of the materials being auctioned is determined by the participating buyers. All the three buyers say that price has got increased in

the e-auction and one of the respondents says that the increase is to a tune of 10% on the average tender prices. This attributes to change over of traditional methods to electronic mode. This view is fortified by the responses of sellers. This is not a benefit for the buyers and this may be attributed to the free quoting facility, the secrecy of the persons quoting the price (no syndicate or curtail formation), revelation of the highest bid registered at a particular time etc. Here profit margin of the buyers got reduced which means the sellers- public sector undertakings are gaining. It goes to the government exchequer.

Reduction of purchase cycle time: While one of the respondents had not expressed his response, the other two have expressed that there is a reduction of 70% and 30%. In the traditional methods it takes an average of 90 days to complete a tender purchase cycle. Based on the responses, it is observed that there is drastic reduction in the transaction time in e-auction mode.

Transparency of the system: Only one had responded and says yes to transparency. In the website of MSTC LIMITED, all the information pertaining to the buyers are visible to all of them. There is no hide or dearth of information from one customer to another. This is an equal opportunity provider.

Human non-interference: For this question too, only one responded and it is positive response. In the automated activities of the system of the portal, no one can interfere and for rectification of any defect or normalisation, only an authentic and nominated system professional is allowed.

Online documentation: The portal provides online documentations like e-auction catalogue, sale intimation letter, sale order, delivery order-cum-invoice etc. All responses confirmed the availability of online documents. Further one has raised a question on how to get the old auction catalogue. As per the terms, the auction catalogue along with the terms and conditions should be saved by the buyers on the day of auction while the auction is on bidding floor. Once auction is closed the catalogue will not be available to the buyers.

Secrecy and privacy of the bidders: As the bidding is on the world wide website operating on the internet platform, the bidders can choose to bid from any where according to their convenience. Unlike in the case of traditional methods of auctions and tenders, they need not to assemble at one place to drop their tender or to bid in the physical auction, where arises the possibilities of exposing oneself to others, curtail formation and sometimes confrontations.

Difficulties faced from the buyers' perspectives

While the buyers get all informations online, they do face problems at various stages of purchase activities. Let us analyse one by one based on Table 4.8.

Problem faced during inspection of materials: All three reveal some problems being faced by them mostly connected with the identity card issued by MSTC LIMITED to be shown in occasion of inspection, delivery etc. One of the respondents has gone further and suggested a suitable solution of issuance of online passes. But this problem can be tackled if the identification card itself is generated in the system and stored systematically. It should be integrated with the system software so that at any point of time the concerned officer of either MSTC LIMITED or the seller can verify the bonofide buyers' identity online on various stages like inspection, receiving sale order/ delivery order, taking delivery of the materials etc. This will solve the problem of carrying the card every time or inspection or delivery of materials simultaneously at many places as being rised in response to Qn.No.3.5 of Table 4.8.

Problem faced during electronic bidding: All three responses agree with the adequacy of speed of the website for registering their bids. But they have expressed some difficulties like system hanging sporadically and vanishing and closing of lots immediately thereafter from the auction floor. This aspect to be looked into and the system group should make remedial measures.

Table 4.8. Comparative Study of Problems Faced by The Buyers

Qn. No.	Factors	Buyer 01	Buyer 02	Buyer 03
3.1	Do you get new e-auction allert in time regularly:	----	Yes	Yes
3.2	If not, have you informed concerned officer in MSTC:	----	----	----
3.3	After informing MSTC, do you get feed back:	----	----	Yes
3.4	Do you get all information online to prepare yourself to go for inspection of materials:	Yes	Yes	Yes
3.5	Difficulties faced with the seller:	I feel that along with auction catalogue, if online passes are also provided to buyers for inspection,it will be even more easy for us	At the time of inspection and delivery they demand original MSTC card if there is delivery from two or three location at a time how it is possible.	Yes. There are difficulties

(table continues)

(continued)

Table 4.8. Comparative Study of Problems Faced by The Buyers

Qn. No.	Factors	Buyer 01	Buyer 02	Buyer 03
3.6	Difficulties faced with e-auction terms:	No	Certain time they mention in the e-auction catalogue the rate of sale tax and demand the same how it is possible because the sale tax rate is declared and decided by the sale tax authorities	No
3.7	Is the webpage speed enough to register your bid: Name of ISP being used by you: It's bandwidth:	Ok BSNL broad band	No MTNL 12 mbps	Ok BSNL broad band
3.8	What kind of difficulties do you face during bidding:	Sometimes system hangs and by the time we come out, the lot closes	Some time the page shows the rate is same as auto bid please enter your bid again and regular what is this.	Yes. Power failure etc.
3.9	Do you get sale intimation letter allert in time:	Yes	Yes	----
3.10	Difficulties of time frame in remittance of EMD/SD:	No	Must be 10 days	No
3.11	Do you feel that there appears time delay in issuing sale order:	No	Sometimes	No
3.12	Do you get Sale Order online:	Mostly	Yes	Yes

(table continues)

(continued)

Table 4.8. Comparative Study of Problems Faced by The Buyers

Qn. No.	Factors	Buyer 01	Buyer 02	Buyer 03
3.13	Do you feel that there is time delay in issuing Delivery Orders by MSTC:	No	Some times	No
3.14	Are the documents issued to you sufficient to take delivery from seller: Pl comment:	Yes	No. All the time the seller says the payment after encashment of the DDs so why he is demanding the DDs, they must accept the cheque or RTGS in this condition	Yes No comments
3.15	Problems faced with sellers:	In Vizag only Visakhapatnam Port Trust as they are always trying to find fault	Same as above they must accept RTGS	Lot of problems. They do not allow to remove water from oil
3.16	Problems faced with MSTC:	No	They should make the condition to submit the payment in the same formate some time mstc accept the payment on behalf the seller and some time they say's in this reg to make the payment directly to the seller so we confuse some time when we not read the sell order or terms of condition because we think the condition is same for all seller	No

Source: Survey conducted by the author.

Difficulties during remittance of payments: Generally, the buyers expressed satisfaction and one respondent asked for 10 days in place of seven days for remittance of security deposit. The purpose of electronic auction is to inform and report everything online on

realtime basis and thereby to reduce sales cycle time. The buyer knows immediately on closing of auction that whether he is successful or not and how much money to be paid. So a period of seven days for remitting the security deposit is fairly enough and it is felt and expected that they should be ready financially even while they start bidding.

Problems faced by the buyers during delivery of materials: All payments are received by MSTC LIMITED from the successful bidders in the form of demand drafts in favour of sellers and the same are passed on to them by post. The buyers, after obtaining a delivery order from MSTC LIMITED by remitting the sale value by demand draft approach the seller for taking delivery. The seller could not give delivery as the payment and their copy of delivery order have not reached them. The only solution for this problem is electronic transfer of funds (EFT). It is a real time transfer and realisation of the money instantly which can solve the problem of the buyers. Delivery orders are available online which can be accessed by sellers using their login password..

Profile analysis of sellers (public sector undertakings) sample

Seller 01: Bharat Heavy Electricals Limited (BHEL), with its headquarters at Delhi, is the largest engineering and manufacturing enterprise in India in the energy-related infrastructure sector. BHEL was established more than 40 years ago, ushering in the indigenous heavy electrical equipment industry in India, a dream that has been more than realized with a well-recognized track record of performance. The company has been earning profits continuously since 1971-72 and paying dividends since 1976-77 (www.bhelhyderabad.com).

BHEL manufactures over 180 products under 30 major product groups and caters to core sectors of the Indian economy viz., power generation and transmission, industry, transportation, telecommunication, renewable energy, etc. The wide network of BHEL's 14 manufacturing divisions, four power sector regional centres, over 100 project sites, eight service centres and 18 regional offices, enables the company to promptly serve its customers and provide them with suitable products, systems and services efficiently and at competitive prices. The high level of quality and reliability of its products is due to the emphasis on design, engineering and manufacturing to international standards by acquiring and adapting some of the best technologies from leading companies in the world, together with technologies developed in its own research and development centres.

The Hyderabad unit of BHEL which is one of the study units as buyer, is located at Ramachandrapuram near Hyderabad in the state of Andhra Pradesh.. Foundation stone of the plant was laid in 1959 and the production commenced in the year 1965. The unit was set up mainly to manufacture 60MW and 110MW steam turbo generator sets for state electricity boards and also 12 MW turbo generator sets. Their products are highly reliable and internationally renowned. BHEL could compete the global market in getting orders and it makes sustained progress.

Table 4.9. Comparison of Profiles of The Sellers Sample

Name of the seller	Designation of the rep	Total no. of employees (approx)	Main product	Annual capacity	Annual turnover (2008-2009)
Bharat Heavy Electricals Ltd., Ramachandrapuram, Hyderabad.	Sr.Manager Stores (CMM)	6,000	Manufacturing of gas, steam turbines, components, electrical generators, oil rigs, Pulverisers	3000 MW of Power	Rupees. 4,000 crore (US \$ 0.83 billion)
NTPC LIMITED, Ramagundam, Andhra Pradesh.	Sr. Manager (Stores)	1700	Power generation	2600 MW	Rupees. 1800 crore (US \$ 0.37 billion)
Hindustan Petroleum Corporation Ltd, Visakhapatnam.	Sr. Manager (Stores)	1500	Petroleum products	7.5 MMT	Rupees. 4000 crore (US \$ 0.83 billion)

Source: Survey conducted by the author.

Seller 02: NTPC Limited or National Thermal Power Corporation Ltd is the largest thermal power generating company of India. NTPC is the sixth largest thermal power generator in the world and the second most efficient utility in terms of capacity utilisation based on data of 1998 in thermal power generation.

NTPC was founded in 1975 to give boost to power development in the country as a wholly owned company of the government of India. Presently, government of India holds 89.5% equity in the company and the balance 10.5% is held by Federation of Indian Industries, domestic banks, public and others. NTPC is engaged in engineering, construction and operation of power generating plants. It also provides consultancy in the area of power plant constructions and power generation to companies in India and abroad. In recognition of its excellent performance and tremendous potential NTPC has been given the status of "Navratna" by the government of India (www.iloveindia.com). Navratnas is the title given originally to nine public sector undertakings, identified by the government of India in 1997 as its crown jewels or the most prestigious PSUs, which allowed them greater autonomy to compete in the global market (www.iloveindia.com).

NTPC's total installed capacity is 27,904 MW. NTPC's coal based power stations are located at fourteen places spreading entire length and breadth of India including one at Ramagundam in the state of Andhra Pradesh which has been chosen as sellers' sample in this study. There are eleven other units which are based on gas and liquid based. NTPC has many subsidiaries companies involved in the generation of hydro power, power transmission, distribution system.

Seller 03: Hindustan Petroleum Corporation Limited (HPCL), a fortune 500 company, is one of the major integrated oil refining and marketing companies in India. It is a mega public sector undertaking (PSU) with navratna status.

HPCL accounts for about 20% of the market share and about 10% of the nation's refining capacity with two coastal refineries, one at Mumbai having a capacity of 5.5 Million Metric Tonnes Per Annum (MMTPA) and the other in Vishakapatnam (East Coast) with a capacity of 7.5 MMTPA. HPCL also holds an equity stake of 16.95% in Mangalore Refinery and Petrochemicals Limited (MRPL), a state of the art refinery at Mangalore with a capacity of nine MMTPA (www.hindustanpetroleum.com).

HPCL owns the country's largest lube refinery with a capacity of 335,000 Metric Tonnes which amounts to 40% of the national capacity of lube oil production. HPCL has given India a firm ground in this sector with its world class standard of lube base oils. Consistent excellent performance has been made possible by highly motivated workforce of over 11,245 employees working all over India at its various refining and marketing locations. The refinery located at Visakhapatnam has been chosen as one of the three companies of sellers in this study.

The start-up of e-auction

MSTC LIMITED introduced the e-commerce system in the middle of 2003. While seller 01 took almost two years to switch over to e-auction, the other two sellers' organisations adapted at the early stage of introduction. Due to easy access to information, user friendly salient features of the portal and convenience of bidding in the internet, the system could attract few new buyers and many new participants in every auction. This is confirmed by all three sellers drawn. Seller 01 says that two new buyers are purchasing in every auction and it ranges from six to eight and three to five in case of seller 02 and 03 respectively. Therefore, it is observed that new customers could be attracted because of its world wide nature.

Response to Qn.No.2.6 in the Table 4.10 shows that the seller 01 does conduct tenders parallelly whereas seller 02 and 03 switched over to e-auction completely. Probably seller 01 would like to take dual advantage in their disposal activities depending on the materials being offered and the market conditions prevailing at the time of initiating the disposal. Responses to Qn.No.2.10 in Table 4.10 reveal that all sellers prefer e-auction system. Besides, seller 01 would like to continue the tendering system for low value materials.

Table 4.10. Comparison of Initiation of E-auction by Sellers

Qn. No.	Factors	Seller 01	Seller 02	Seller 03
2.1	Year of introduction of e-auction:	2004	2003	2003
2.2	Major items sold through e-auctions:	MS Turnings and Borings Scrap, copper Scrap, used oil, brass scrap, Alu. Scrap Silicon steel	Grinding rings, MS scrap, Grinding balls, Pipes. Structural steels etc.,	All types of scrap like MS, SS; CI etc.
2.3	Quantity sold: (2008-2009)	1000 MT	5000 MT	1500 MT
2.4	Sale amount: (2008-2009)	Rs.3.00 crore (US \$ 0.62 million)	Rs. 8.5 crore (US \$ 1.76 million)	Rs. 2.19 crore (US \$ 0.45 billion)
2.5	Average no. of new buyers per auction:	2	6 to 8	3 to 5
2.6	What other modes of disposal do you adapt for selling obsolete inventories:	Tender	Transfer to other power projects , original manufacturers, suppliers and goback arrangement	Nil
2.7	If other mode (not e-auction) is adapted, what are the major items being sold:	MS Turnings and Borings Scrap, Copper Scrap, used oil brass scrap, Alu. Scrap, Silicon Steel scrap.	Cable and steel	Nil
2.8	If other mode (not e-auction), what is the quantity sold:	3000 MT	Nil	Nil
2.9	If other mode (not e-auction), what is the quantum of sale in terms of money:	Rs.4.00 Crores (US \$ 0.83 millions)	Nil	Nil
2.10	What is your preferred mode: E-auction/ tender/ public auction/ tender-cum auction Please comment on why:	E-auction and tender. For high value items we prefer e-auctions and for miscellaneous we prefer tender.	E-auction- Paperless, transparent , quick and spot decision.	E-auction, transparency is more and is based on central vigilance commission guidelines

Source: Survey conducted by the author.

Benefits of e-auctions from the sellers' perspective

Cost reduction analysis: Cost reduction is studied under three headings, administrative cost like postal, communication, travel etc., cost of manhours and cost of paper work. Responses to Qn.No.3.2 of Table 4.11 reveal reduction of cost towards administrative expenses at 1%, 5% and 60-70% respectively by seller 01, 02 and 03.

Table 4.11. Comparative Study of Benefits of E-auction from Sellers' Perspective

Qn. No.	Factors	Seller 01	Seller 02	Seller 03
3.1	Do you feel that there occurs cost savings with e-auction?	Yes	Yes	Yes
3.2	Cost reductions in terms of administrative expenses (postal, communication, travel etc. (approx.))	1 %	5%	60-70%
3.3	Cost savings in terms of reduction in manhours involved (approx.)	5 %	20%	70%
3.4	Reduction of paper work (approx.)	5 %	30%	60%
3.5	Do you feel that sale price increased on switching over to e-auction: If yes, to what extend: (approx.)	2 - 5 %	10-15%	15-20%
3.6	Do you feel that entire cycle time for e-auction is reduced: If yes , to what extend: (approx.)	3 %	10%	10-20%
3.7	Can you please comment on the adequacy of information available in the e-auction portal:	Sufficient	No comments pl.	All relevant information is available on portal mainly rates of other stations

(table continues)

(continued)

Table 4.11. Comparative Study of Benefits of E-auction from Sellers' Perspective

Qn. No.	Factors	Seller 01	Seller 02	Seller 03
3.8	Please comment on the transparency of the system:	More transparency	This e-auction system is very good . Open to all registered bidders. Secrecy maintained	It is completely transparent
3.9	Do you feel human interference in the vital and automated activities of the system: If yes, specify the part of activities:	No	When the server is down, or when power failure is there at the customer end, MSTC should help the customer to such situations	No comments
3.10	Could you generate adequate reports/ documents from the system online: If not, what kind of additional reports would you like to have:	Yes	No please. Provision should be extended to know the best price for that item on the due date from the market conditions with references	Yes. More or less sufficient
3.11	Are you satisfied with the security features of the portal (for example- confidentiality of reserve price fed):	Yes	Yes	Yes
3.12	In general, are you satisfied with the sevices of MSTC?	Yes	Yes	Yes
3.13	In overall, are you satisfied with the system of disposal through e-auction? Reason:	Yes	Yes	The suystem is very fast, transparent
3.14	Additional comments,if any:	--	No	Nil

Source: Survey conducted by the author.

Sellers expressed a reduction of 5%, 20% and 70% in respect of cost towards manhours. They also expressed reduction in paper work to a tune of 5%, 30% and 60%. Therefore, it is very apparent that there is definite reduction in the cost by switching over to electronic auction and the quantum of reduction is not meagre and it is appreciable quantum.

Increase of sales revenue: Average sale price of materials being sold in e-auction has increased. Different range of increase has been indicated by the sellers. As a response to Qn.No.3.5 in Table 4.11, seller 01 says 2-5% increase whereas sellers 02 and 03 reveal 10-15% and 15-20% respectively. In fact, increase of these percent on the sale value will be a huge amount in absolute money term. This enhancement in sale price may attribute to many factors. One such factor is secrecy in bidding. No one will be able to find who is offering particular bid at least till the completion of e-auction. Therefore, the question of syndicate and curtail formation is totally eliminated. The entire money goes to government exchequer which has been enjoyed by private firms quite for decades and even centuries.

Reduction in sale cycle: The sale cycle consists of preparation of lots, displaying the lots electronically by hosting e-auction on the web, inspection by the interested buyers, bidding process, decision of lot allotment electronically, receipt of payments and delivery of the sold lots to the successful buyers. This process got quickened in e-auction and the cycle time got reduced drastically. Referring to response to Qn.No.3.6 in Table 4.11 the survey reveals a reduction of 3%, 10% and 10-20% by sellers 01, 02 and 03 respectively. The researcher feels that the savings of time would have been a greater figure than the revealed.

Adequacy of information: While the seller 02 reserved his response as 'no comments', the other two sellers responded affirmatively.

Transparency: All three sellers have expressed with extreme words for transparency. All informations are displayed for the view of all participants in the e-auctions. In the meantime, the secrecy is also maintained.

Human non-interference: While two sellers responded by saying that no human interference is noticed or possible, seller 02 expressed that when the server goes down or power failure occurs at the bidder's end, MSTC LIMITED should help them. When MSTC LIMITED server goes down, the remedial actions that have to be taken are to be thought by MSTC LIMITED and implement the same. But while power failure occurs at buyers' end, MSTC LIMITED may not be in a position to help them because failure of electricity is beyond the scope of MSTC LIMITED and more over the distribution of bidders are wide spread throughout the country.

Documentation: Two of the sellers agreed that they could generate all reports and documents required to complete the transactions. Seller 02 expressed, 'No, please' and stated that provision should be extended to know the best price for that item on the due date from the

market conditions with references. By this, they mean that they would like to know the best prices of similar items sold from the data base so that it will be easy for them to fix a suitable price and to feed in the system before start of the e-auction. This is like giving a market feed back regarding ongoing prices. In this respect MSTC LIMITED is helping the sellers by providing the data offline which should now be made online to ensure accuracy and avoid errors while doing manually.

Difficulties from the sellers' perspective

Difficulties faced by by sellers during inspection: Two sellers expressed no difficulties faced by them during pre-bid inspection of materials which is evident from the responses to Qn.No.4.1, 4.2 and 4.3 of Table 4.12. But seller 02 desired that MSTC LIMITED should visit their unit and advise them regarding segregation of materials to offer in different lots according to the contents of materials. Normally, this type of request arises from many sellers and MSTC LIMITED is deputing its expert executives to offer suitable advice and it should be intensified to cover all such requests..

Table 4.12. Comparative Study of Difficulties Faced by Sellers in E-auction

Qn. No.	Factors	Seller 01	Seller 02	Seller 03
During inspection by intending buyers				
4.1	Any difficulties internally where you feel MSTC services can be of helpful:	No	MSTC official should visit to NTPC after lots are declared, to guide them how to segregate how to store how to make lots etc.	---
4.2	Difficulties faced with the buyers:	No	Nil	Nil
4.3	Difficulties faced with terms and conditions of e-auction:	Some conditions require modification	Nil	Nil
During feeding of reserve price in the portal				
4.4	Please specify if you face any problem:	No	No	Nil

(table continues)

(continued)

Table 4.12. Comparative Study of Difficulties Faced by Sellers in E-auction

Qn. No.	Factors	Seller 01	Seller 02	Seller 03
During payments and in sale documents				
4.5	with respect to EMD/SD:	No	Ok No problem	Due to volatile market conditions buyers are backing out as there is no EMD. Hence even small amount of EMD is essential to avoid such back out.
4.6	With respect to sale orders:	No	Nil	Nil
4.7	With respect to balance payment and delivery orders	No	Full payment to be collected before issue of delivery order.	Nil
During delivery and in delivery documents				
4.8	Is buyer identity adequate:	Yes	No	Yes
4.9	Is there any other difficulties:	No	Nil	No
Additional				
4.10	If any:	---	---	---

Source: Survey conducted by the author.

Payment and sale documents: One of the sellers expressed that full payment towards the cost of materials including all taxes and duties is to be collected by MSTC LIMITED before issuing delivery orders. Nomally, MSTC LIMITED ensures collection of entire sale value from the successful bidders before issue of delivery orders. Occasionally, even if it happens to be a small short fall, the delivery order is issued but with suitable instruction to seller to ensure collection of short fall from the buyer before releasing the material. This practice is adapted to avoid further delays on account of this small money which could be collected by seller themself at the time of delivery of materilas.

Delivery and delivery documents: There is no adverse comments from any of the sellers regarding inadequacy of the document and and delivery of materials. They have expressed satisfaction with regards to adequacy of the delivery documents.

4.8 Summary of findings of the research

The researcher systematically collected the samples, sent the questionnaires to units of samples, collected the responses and conducted analysis of the data so collected meticulously. While many aspects emerged during analysis, the reearcher would like to bring forth and enumerates only the vital findings as bellow:

- On the basis of Micheal E. Porter's five forces of industries advantage, it is observed that there are two major threats for MSTC LIMITED, one termed as internal rivalry from the existing competitor and the other one is from the suppliers (seller) by way of disintermediation.
- Analysis based on Burton collaborative forces reveals that the above threats can be converted into advantages by collaboration with the suppliers (joint ventures) and with competitor (acquisition).
- The study also reveals lack on the part of MSTC LIMITED with regards to customer care and customer relationship management.
- In the e-commerce business, both sellers and buyers could save cost to a tune of about 30% in manhours, 20% in travel and 30% in paper work.
- It was found that the transaction is speedy and there is substantial savings in the transaction time.
- Both sellers and buyers find complete transparency in the e-commerce system and there is no interference of human in the inbuilt automated activities of the system.
- There is an enhancement of about 12-15% on the selling price after switching over to e-auctions.
- Buyers sample expressed great variations and unstandardisation in the terms and conditions of e-auctions.
- Both sellers and buyers endorsed full satisfaction over the documentions and reports which could be generated from the system.
- Buyers prefer electronic transfer of money for remitting the material value to avoid delay in realisation of money by sellers and subsequent delay for taking delivery of the materials.
- From the above study, it was also found that buyers are facing problems with single photo identity card to transact their businesses in multiple locations simultaneously.

4.9 Suggestions and recommendations for MSTC LIMITED

MSTC LIMITED being an electronic marketplace and neutral electronic hub, it should treat both the sellers and buyers with equal importance. As an intermediary, selling and buying are considered as a single process as far as MSTC LIMITED is concerned. Without either of the two, it can not earn its commission. Therefore it was decided to study the electronic marketing process from both sellers' as well as buyers' perspective. The study samples have been drawn from both of them, systematic analysis was carried out and based on the findings, the researcher would like to suggest and recommend the followings:

Suggestions with respect to electronic marketing

- To enhance the customer relationship management activities with greater vigour on customer acquisition, customer retention and customer expansion. This is one and the most sought road map for the better future of MSTC LIMITED.
- To adapt customer care balance sheet in order to have greater control over the employees in dealing with the customers. This will, of course, reflect the performance of the employees.
- To create a customer care desk in each office of MSTC LIMITED and the desk should be fully equipped with all infrastructure and information to serve its customers in a better way.
- To ensure complete digitisation of identity cards issued to the customers of electronic auctions. This is expected to bring down most of the problems related to inspection of the materials, collection of documents, delivery of materials etc., This can also take care of the problems related to physical storing, carrying, producing, replacing, posting of this card.
- To take remedial steps to reduce the incidents of system hanging during the electronic bidding time. It is the paramount responsibility of MSTC LIMITED to instil the confidence in the minds of buyers and sellers about uninterrupted functioning of the system and to feel human non-interference in the automatic activities of the system.
- To implement the facility of electronic fund transfer (electronic banking) system in order to make the payment and realisation on real time basis. This will felicitate the buyers to take delivery of the materials without delay. Otherwise the payments remitted through demand draft which is being forwarded by post, transmitting the same to bank and realisation by the seller consume considerable time and dilute the sactity of e-commerce.
- To review the terms and conditions of electronic auction in order to standardise the same to make uniformity excepting where it is necessary to be flexible to suit the needs of the particular principal.
- To have online compilation of comparative prices from the data base of similar sold items which may be helpful in furnishing to pricipals periodically for having better idea of the market trends and so in fixing the reserve prices.

- To visit the sellers' units periodically, and to discuss the prospects and problems. To offer expert opinion in the matter of lot formation wherever sought in particular.
- To have a link in the portal for accessing the closed auction catalogues by buyers.
- To approach those sellers who still follow the traditional methods and convince them the benefits being reaped by other early adaptors of electronic auction.

Suggestions in general

- To train the employees in cross selling so that customers may be directed towards purchase of other services offered by MSTC LIMITED.
- To make the portal more dynamic and also to make attractive and acoustics type of advertisement focused on activities of MSTC LIMITED.
- To formulate mission and vision of the company and to display the statements in order of clear visibility to its stakeholders.
- To study the entry in green field development in the area of iron ore or coal mining as a part of concentric diversification strategy.
- To import any of the fast and easily saleable goods relative to needs and wants of existing buyers to bring on its own and to market in India to test its ability and also to earn the margin instead of only the commission which is so meagre.
- To tackle the recession tactfully as far as import is concerned. To ensure full financial coverage before placement of orders. Depending on the feasibility, MSTC LIMITED may think in the line of opening of overseas office from where most of the import takes place so that it can be better co-ordinated and it can also stimulate momentum.
- Being a small company with its committed work force, MSTC LIMITED should think about acquisition of its competitors and strategic joint ventures or merger with public sector giants in order to gain its financial status and security.

The challenges before MSTC LIMITED is its sustainability. By its very nature of operations, it should practice proactive nature of development. To have a sustained growth, it should focus on customer centric activities accomplishing with quality services and value additions to the supply chain. All the informations required should be made easily accessible to the customers and must be more transparent in its operations. Effective two way communication is to be carried out to ensure quick flow of information and to quicken the processing of orders and closing of sales.

Recession effect

The corporation's activities are mainly related to metals, minerals and other commodity products in both international market and domestic market operations. In the recent global recession, one of the worst hit sectors is commodity and metal markets as their prices have fallen drastically. In the international market, the corporation's operations are to import the material on behalf the local clients. After import, the material will be in the custody of MSTC

LIMITED and on payment of money, MSTC LIMITED will release the material to the importer. On account of post-October 2008 fall in commodity and metal markets, the pre-booked contracts have been affected badly and approximately US \$ 124.17 million has been blocked as the importer is not keen on taking the delivery of material owing to steep fall in the prices and less demand for their finished products. In addition, operational margin of the corporation has also come down due to fall in the prices.

The situation is nothing different in domestic market in sale of scrap, coal and other e-sale as the prices have fallen sharply in the month of October 2008. Due to this, company's turnover did come down around 30% and also the income from business has also come down by 25 %. However, company has posted profits in the last fiscal ended on March 2009 but with a dip in profits by 20% .

Suggestions for combating the recession

As regards to domestic trade, MSTC LIMITED is nothing to do with the activities of any kind for overcoming the effect of recession as the trade is wholly dependent on the public sector companies and government departments. They should take their own remedial steps to combat the recession and to stimulate their industrial activities which will have a cascading effect on MSTC LIMITED 's activities. Unless they take some remedial activities, MSTC LIMITED's position can not be shifted in this recession time.

As regards to international marketing, the following steps are suggested:

- Any import should be only on back to back arrangement with full financial coverage.
- To deal with industries whose performance is stable even in these recession period.
- To deal with short term transactions avoiding long term where the stability of prices are unpredictable.
- To minimize the risk taking decisions.
- To go slow with close watch on the recovery of recession.

These are not water-tight steps and if implemented, it could safeguard the interest of MSTC LIMITED. There may be other activities and economic measures too which need to be explored in the interest of the company.

CONCLUSIONS

Internet is an equal opportunity provider and has global reach with round the clock accessibility. The network is so interwoven and no obstacle persists in reaching from anywhere and at anytime. This wonderful global network coupled with electronic communication technology offers unlimited opportunities to business entities. It has tremendous speed in its interactions and delivery systems. The technological evolution finds the use of internet and thus the era of e-business or e-commerce took its lead during late 90's. Electronic commerce emerged out of the digital and technological revolution, which enables companies to simultaneously increase both growth and profits. This revolution enables digitization of products, services and information. 24x7 accessibility from any where in the globe is the competition on electronic commerce. When everything is same then one can differentiate them with the services. Electronic growth comes not only from B2C but also from B2B and from newer applications such as e-government, e-learning, business to employees, and collaborative commerce. Overall, the growth of the field will continue to be strong into the foreseeable future.

The important part of learning is to learn from the success and failures of others. Despite the failures of individual companies and initiatives, the total volume of electronic commerce is growing almost by 15 to 25 percent every year. Thousands of brick and mortar companies are adding online channels with great success. If some one thinks to keep the internet initiatives separate from his traditional business, he should think and re-think. Many of the most innovative internet players are integrating their virtual and physical operations. The key to success lies in how he carries out the integration. In the post dot com burst, a few dot coms existed in each major business sectors, most evolved with a combination of online and physical business. Traditional business needs to make substantial investments in electronic commerce to succeed. The success factor of business to business electronic commerce is establishment of effective marketing management, an attractive web site, an effective integration of information and building strong connections with the customers.

Utilising the electronic commerce technology, electronic marketing has made tremendous impact socially and economically in the entire world. It has its place in every activities of life. It furnishes all the information without any bias and parity and therefore it exhibits transparency. Transactions are carried out from the place of convenience without any hassle. It has made impact in reducing the transaction time and cost, and shown the transparency which can make a break through in avoiding corruption.

Electronic marketing is a powerful enabler that can generate tremendous value proposition for the firms in terms of higher revenue. Electronic marketing eliminates the unwanted processes, brings visibility and transparency and non-interference of human across the process. The process efficiency is not just about less paperwork and less mistakes, but e-

marketing leads to professionalism in work, better business control and cleans up other processes within the company across the entire process. The integration of existing technology to the existing process avoids duplication of work and better control mechanism. Electronic marketing has the power to improve marketing performance in many ways. In order to reap the benefits of electronic marketing, managers need to deploy electronic commerce applications with great care so that the electronic marketing applications reinforce the underlying marketing logic.

Electronic marketing is growing at a dramatic pace and is significantly impacting customer and business market behaviours. As a result, most firms have started developing e-marketing strategies for the web. The positive impacts of the electronic marketing are to be disseminated effectively through out the industrial sector which can make some sort of inducement among the industries to adapt the electronic commerce system to reap the immense benefits embedded in it.

Electronic marketing or electronic business is a paperless and faceless business. Many a times the transaction takes place without meeting of buyer with the seller as all activities are carried out electronically over internet. This creates a wide gap in the relationship marketing. But this faceless transaction gap can be abridged or closed by way of other effective CRM activities. Profitability of the organisation is enhanced by creating loyal customers. Customer acquisition and retention activities must be continuous and consistent for any organisation to be successful. Organisations should periodically evaluate themselves for the competitive advantage in the industry. Organisations should keep vigilant watch over the competitors and their move in the business so as to keep in pace. They should also be vigilant over introduction of new products by other companies which may be a substitute of the product of this company. Improving product or service quality and introduction of new product and looking at new market can add advantage to the marketing strategies of the organisation.

Electronic commerce driven business must consider cultural differences in the diverse global customer base because without the broad acceptance of the electronic commerce channel, customers may choose not to participate in online transactions. The critical cultural elements that can affect electronic commerce business are perceived trust, customer loyalty, regulations, and political influence. Even the content of online ads can mean different things to different culture. Customers may not trust the foreign firms. To tackle such situations, the sellers should collaborate with respectable local firms, banks etc. to create trust. Further online testimonials from local customers can positively influence the transactional trust.

Electronic commerce like B2B and other e-marketplaces should get ready to face the legal challenges which might engulf the progress of their activities. First, the web extends a company's reach beyond traditional boundaries. A business that uses the web immediately becomes an international business. Thus, a company may be subject to many more laws whereas legal system in case of brick and mortar business is confined to the physical location of the

business. Secondly, the web increases the speed and efficiency of business communication. So customers often have much more interactive and complex relationships with the companies from where they buy. Moreover, web creates a network of customers who often have significant levels of interactions with each other. Web business that violates the law or breach ethical standards can face rapid and intense reactions from many customers and stakeholders. E-marketplaces typically introduce some level of collaboration among both competitors and business partners. In such cases, antitrust and other competition laws must be considered. The concept of collaboration itself may lead to antitrust scrutiny by governments.

Like other innovations, electronic commerce is expected to go through the cycle of enormous success, followed by speculations, and then disaster before the reality of the new situation sets in. Some electronic commerce failures were the results of problematic web site design, lack of sustained funding, and weak revenue models. Success in electronic commerce comes through automating and enhancing familiar strategies such as branding, trust building and creating value for all trading partners by enriching the human experience with integrated and timely information.

While many companies, organizations, and communities in India are beginning to take advantage of the potential of electronic commerce, critical challenges remain to be overcome before electronic commerce would become an asset for common people. The electronic marketers should make initiatives on confidence building measures among the primitive and conservative customers. MSTC LIMITED being an intermediary e-marketplace, it should promote such activities among sellers as well as buyers including the common people. It should make its direction in building trust with the customers and should generate loyal customers. Customer care balance sheet and balanced scorecard are right tools of the management to have control over its employees with respect to customer relationship management. MSTC LIMITED always has a threat of disintermediation. Unless it offers value additions to the system and improve the supply chain and relationship marketing, its activities might remain confined, restricting the path of progress. The balance of power is shifting to the customer. Now having unlimited access to information on internet, customers are much more demanding than their predecessors.

Because of its significant potential, e-business is now the focus of efforts in many countries, and governments are beginning to play a critical role in nurturing the e-readiness of various industrial sectors. In the industrial world, internet auctions with transactions between business-to-business become very popular for auctioning old, obsolete stock and excess inventory, since they have managed to create a market demand where none was previously available.

While the developed countries are advanced much in availing the e-commerce technology, the developing countries made noticeable improvement in implementing the system. Developing economies often face power blockouts, unreliable telecommunications infrastructure,

undependable delivery mechanisms, and the fact that only a few customers own computers and credit cards. Such limitations make it difficult for firms to predict whether electronic commerce investments will pay off. However developing economies such as China and India represent a significant opportunities for electronic commerce to connect business-to-business as well as other businesses. In developing country like India, use of information and communication technology in e-commerce is important because it improves efficiency and it helps to reduce corruptions. Electronic commerce reduces the required time for the entire transaction as all the required information are available online and helps to faster the more informed decision making. It is absolutely required for developing economy like India where the population is in excess of 1.1 billion. Otherwise service to people in time lies only in papers and can not become reality.

Initially the researcher intended to study the structural changes the business entities had to make to meet electronic marketing strategies, and to analyse the growth of the organizations in terms of profitability during the pre- and post-e-commerce period. On account of paucity of time and space constraints, researcher could not make his studies in these fields. Therefore, these fields become an area for further investigation and future research.

The author would like to conclude this research with a positive word of mouth that there is much more to exploit the electronic commerce technology and this world will see a much comfortable life for each and every citizens of the globe and pollution free air to breath in, and healthier food to eat, if the electronic commerce technology is exploited in right way and implemented in right spirit.

REFERENCES

1. AMA. (2007). Definition of marketing. Retrieved April 24, 2009, from http://www.marketingpower.com/ResourceLibrary/PagesMarketing_Optimization_an_Introduction.aspx.
2. Annual report 2007-2008 by ministry of petroleum and natural gas. Retrieved July 24, 2009 from http://petroleum.nic.in/jsp/annual_report.jsp.
3. Annual report of MSTC LIMITED for the year 2001-2002 till 2007-2008. Retrieved June 22, 2009, from www.mstcindia.co.in.
4. Baker, M. J. (2000). *The Philosophy and Theory of Marketing*.
5. Besant, L. X., & Sharp, D. (2000). Library needs relationship marketing. *Information outlook, March 2000*.
6. Bonell, S. (1999). *The revolutionary e-commerce report: Holistic approach to ensure success* Business Review.
7. Brigham Young University. Would-be Shoppers Still Worry on Security. Nua Internet Surveys. July 13, 2001.
8. Burton, J. (1995). Composite Strategy: The Combination of Collaboration and Competition. *Journal of General Management, Vol. 21*, no. 1, Autumn 1995.
9. Chaffey, D. (2006). Internet Marketing: Strategy. Implementation and Practice. Retrieved March 23, 2009 from <http://www.davechaffey.com/About>. Your guide to digital business.
10. Champy, J. (2001). Waiting for change. *sales and marketing management magazine*.
11. Chen, W. (2009). Future of electronic commerce. Retrieved August 25, 2009, from <http://EzineArticles.com>.
12. Connor, J. O., Galvin, E., & Evans, M. (2004). Marketing strategy in technology enabled environment. *Electronic marketing- theory and practice for the twenty-first century*.
13. Cook, S. (2002). Customers care balance sheet. *Customers care excellence*. How to make an effective customer focus, pp.83.
14. Coppel, J. (2000). *E -commerce: Impacts and Policy Change*. Unclassified OECD working paper.
15. Customer relationship management. Retrieved June 28, 2009, from www.networkdictionary.com/software/CRM.php.

16. Customer Relationship Management. Retrieved May 01, 2009, from http://six-sigma-crm.com/best_crm_software.html.
17. Definition of data analysis. Retrieved August 03, 2009, from http://en.wikipedia.org/wiki/Data_analysis.
18. Disposal of raw materials. Retrieved April 15, 2009 from www.mstcauction.com.
19. Drucker F. Peter.(1999). Beyond Information Revolution. *Atlantic Monthly* October 1999 Volume 284, No. 4.
20. Drucker, F. Peter. (2002). Electronic commerce. Definitions and concepts.
21. E-Auction news. Retrieved April 24, 2009, from <http://www.ecommerce-times.com/story/56434.html>.
22. E-auction. Retrieved May 03, 2009, from www.mstcindia.co.in and www.mstcecommerce.com.
23. Ecommerce Marketing. Retrieved July 06, 2009, from <http://www.webtransitions.com/articles/ecommerce-marketing.asp>.
24. Evans, M. K., & Stroll, H. (2006). Marketing Challenge. Traditional vs. New Marketing Published on May 9, 2006.
25. Feeny, D. (2001). Making Business Sense of the E-Opportunity, *Sloan Management Review*, Winter 2001, 42, 2, pp.42.
26. Free Encyclopedia of Ecommerce Transparency. Retrieved July 22, 2009, from <http://ecommerce.hostip.info/pages/1003/Transparency.html>.
27. Garcia, P. C. (2001). B2B Exchanges and the Myth of Perfect Transparency (Published in Gaceta Jurídica de la Unión Europea y de la Competencia, Madrid).
28. Growth of ecommerce in India. Retrieved July 17, 2009, from <http://techcrunchies.com>.
29. Imports and exports of petroleum products. Annual report, (2007-2008). Ministry of petroleum, government of India. Retrieved July 24, 2009, from <http://www.petroleum.nic.in>.
30. Information Technology (IT) and CRM. Retrieved May 09, 2009, from http://www.marketingteacher.com/Lessons/lesson_crm_IT.htm.
31. Information Transparency in Electronic Marketplaces: *Electronic Markets, Special Issue on B2B E-Commerce*, 2002, Vol. 12, No. 2.

32. Introduction to Customer Relationship Management (CRM). Retrieved May 09, 2009, from http://www.marketingteacher.com/Lessons/lesson_crm.htm.
33. Kaplan, R., & Norton, D. (1992). Balanced scorecard. Measures that drive performance, *Harvard Business Review*, Jan-Feb, pp.71-80
34. Kaplan, S., & Sawhney, M. (1999). Business-to-business electronic commerce hubs. Towards a taxonomy of business models.
35. Kotler, P. (2005). *Key stages of marketing plan*. Principles of marketing.
36. Marketing concept and orientation. Retrieved July 28, 2009, from http://tutor2u.net/business/marketing/marketing_concept.asp.
37. Marketing strategy. Retrieved July 06, 2009, from <http://ba3365.wordpress.com/category/class-reviews>.
38. Meeker, M. (2001). Internet: New media & e-commerce and PC software. *Morgan Stanley Dean writer May 11, 2001*.
39. Morrison, D., & Wise, R. (2000). Beyond the exchange-the future of B2B.
40. National steel policy, (2005). Report by ministry of steels, government of India. Retrieved July 24, 2009 from <http://steel.nic.in/nspolicy2005.pdf>.
41. Pitton, J. (2005). *The Real Impact of B2B Data Accuracy*. Volkart May & Associates, Inc. 763-450-4900 2.
42. Porter, M. E. (2008). The Five Competitive Forces That Shape Strategy-*Harvard Business Review*, January 2008, pp.79-93
43. Profile of Bharat Heavy Electricals Limited. Retrieved August 03, 2009, from <http://www.bhel.com/about.php> and http://bhelhyderabad.com/bhel_hyderabad_unit.htm.
44. Profile of Hindustan Petroleum Corporation Limited. Retrieved August 03, 2009, from <http://www.hindustanpetroleum.com/En/UI/Home.aspx>.
45. Profile of National Thermal Power Corporation Limited. Retrieved August 03, 2009, from <http://www.iloveindia.com/economy-of-india/top-50-companies/ntpc.Html>.
46. Ramanathan, S. (2004). Critical Mass Attainment in E-Business Trading Communities.
47. Revolution of e-commerce (2008). e.com, the magazine-2nd edition (2008) released by MSTC LIMITED.
48. Rising demand of iron ore and coal mines. Weekender dated June 11, 2007.

49. Role of E-commerce in Marketing. Retrieved July 06, 2009, from <http://www.webtransitions.com/articles/ecommerce-marketing.asp>.
50. Schneider, G. P., & Perry, J. T. (2001). Customer's trust and loyalty. *Electronic commerce, second edition*.
51. Sengupta, S. (2006). Indian iron and ore in the global perspective. *Steel world* October 2006.
52. Simeonov, S. (2006). "E-Commerce 2.0" – The Velvet Revolution.
53. Sinha, A. (2007). M-commerce. *Digital India, India online classified Industry*. Retrieved July 10, 2009, from http://www.chillibreeze.com/articles_various/Ecommerce.asp.
54. Sourcing of industrial inputs by way of import. *Operational manual, International marketing* released on January 01, 2001, by MSTC LIMITED.
55. The barriers of implementing e-commerce solutions. Retrieved August, 2006 from harmonyhollo.net.
56. The economic and social impact of e-commerce. Preliminary Findings and Research Agenda (1999), *Organization for Economic Co-Operation and Development*.
57. The Marketing Strategy Process. Retrieved July 06, 2009 from <http://www.easy-marketing-strategies.com/marketing-strategy-process.html>.
58. The Philosophy and Theory of Marketing. Retrieved May 09, 2009, from http://www.marketingteacher.com/Lessons/lesson_philosophy_and_theory_of_marketing.html.
59. The real impact of B2B data accuracy. Retrieved April 27, 2009, from http://articles.webraydian.com/article13928-B2B_Marketing_after_Financial_Turmoil.html.
60. Turban, E., King, D., & Mckay, J. (2008). Electronic commerce. A managerial perspective. Impact of e-Auction.
61. Varadarajan., & Manjit. S. (2009). Marketing Strategy in an Internet-Enabled Environment: *Journal of Interactive Marketing (Mergent, Inc.); Feb 2009, Vol. 23* Issue 1.
62. Wheelen, L. T., & Hunger. J.D. (2006). Concepts in Strategic Management and Business Policy, Industry Analysis. 4th edition.
63. Wise, R., & Morrison, D. (2000). Beyond the exchange--the future of B2B. *Harvard Business Review*. 2000 Nov-Dec;78(6).

APPENDICES

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APPENDIX –A

Financial results of MSTC LIMITED

Rs. in crores

	2007 - 2008	2006 - 2007	2005 - 2006	2004 - 2005
Gross Income	5197.11	3100.07	4172.75	4960.04
Total expenditure (including financial charges, depreciation & provisional & write off	5062.64	3006.66	4087.05	4895.27
Gross Profit before tax	134.47	90.87	85.7	64.77
Tax	42.26	31.87	31.02	26.47
Profit after tax	92.20	59.00	54.68	38.30
Paid-up Capital (Equity)	2.20	2.20	2.20	2.20
Reserves	268.45	197.87	152.76	110.58
Proposed Dividend (%)	840	540	498	349
Earning per share (Rs.)	419.11	268.20	248.53	174.09

APPENDIX –B

Balance sheet of MSTC LIMITED

	AS AT 31/03/2008 Rs. in crores	AS AT 31/03/2007 Rs. in crores	AS AT 31/03/2006 Rs. in crores	AS AT 31/03/05 Rs. in crores
SOURCES OF FUNDS				
Shareholders' Funds				
Capital	2.20	2.20	2.20	2.20
Reserves and Surplus	268.45	197.87	152.76	
	270.65	200.07	154.96	
Loan Funds	1170.28	968.34	805.58	541.60
TOTAL	1440.93	1168.41	960.54	654.38
APPLICATIONS OF FUNDS				
Fixed Assets				
Gross Block	19.05	16.28	7.26	7.07
Less: Depreciation	11.25	7.58	5.57	5.21
Net Block	7.80	8.69	1.69	1.86
Capital Work-in-progress	4.32	0.15	6.01	-----
Investments	17.81	31.81	33.81	33.81
Current Assets, Loans & Advances				
Current Assets				
Interest accrued on Investment	0.20	0.40	0.40	0.40
Stock-in-Trade	13.99	65.94	75.69	72.19
Sundry Debtors	2919.67	1213.84	704.03	410.87
Cash and Bank Balance	1445.04	1042.64	1015.53	1279.98
Other Current Assets	9.94	8.61	2.56	7.41
	4388.86	2331.43	1753.17	1770.85
Loans and Advances	301.00	217.85	184.79	153.78

(table continues)

(continued)

	----- 4689.86	----- 2549.29	----- 1937.96	----- 1924.63
Less: Current Liabilities and Provisions	3278.86	1421.64	1019.14	1306.25
Net Current Assets	----- 1411.00	----- 1127.63	----- 918.81	----- 618.38
Misc. Expenditure	0.00	0.11	0.22	0.33
TOTAL	1440.93	1168.41	960.54	654.38

APPENDIX –C

Profit and loss account of MSTC LIMITED

	2007-08 Rs. in crores	2006-07 Rs. in crores	2005-06 Rs. in crores	2004-05 Rs. in crores
INCOME				
Sales	4974.79	2943.86	4035.75	4870.80
Service Charges	80.15	55.07	56.80	27.82
Other Income	130.71	97.70	80.20	61.42
Provision no longer required written back	12.00	3.44	0	0
TOTAL	----- 5197.11 =====	----- 3100.07 =====	----- 4172.75 =====	----- 4960.04 =====
EXPENDITURE				
Cost of Sales	4928.40	2917.39	4002.52	4825.06
Employees' Remuneration and benefits	16.40	12.29	11.00	10.74
Administrative Expenses	14.44	9.61	7.47	6.51
Financial Charges	97.70	61.57	56.87	42.95
Auction / Tender Expenses	1.84	1.64	1.92	1.70
Provision for Doubtful Debts	0	0	0.82	0.46
Provision for Overdue Investment	0	0	6.00	8.00
Bad Debt written off	0	0	0	0.45
Prior Period Adjustment (Net)	0	0	0	(1.09)
TOTAL	----- 5058.78 =====	----- 3006.67 =====	----- 4086.60 =====	----- 4894.78 =====
PROFIT				
Profit before Depreciation & Tax	138.33	93.40	86.15	65.26
Less: Depreciation	3.86	2.53	0.45	0.49
Profit before Tax	----- 134.47	----- 90.87	----- 85.70	----- 64.77
Less: Provision for Taxation	42.00	31.66	30.79	26.47
Fringe Benefit Tax	0.26	0.21	0.23	-----

(table continues)

(continued)

Profit after Tax	----- 92.20 =====	----- 59.00 =====	----- 54.81 =====	----- 38.30 =====
APPROPRIATIONS				
Interim Dividend	0	0	2.24	1.12
Tax on Interim Dividend	0	0	0.31	0.15
Proposed Dividend	18.48	11.88	8.71	6.56
Tax on Dividend	3.14	2.02	1.22	0.92
Transferred to General Reserve	70.58	45.11	42.18	29.55
TOTAL	----- 92.20 =====	----- 59.00 =====	----- 54.68 =====	----- 38.30 =====

APPENDIX –D

Letter to Public Sector Undertakings (sellers)

Date: 20.7.2009

From

Arumugam Rajamanickam,
ICPE, 104, Dunasjka Cesta,
Ljubljana 1000,
SLOVENIA (Europe).

To

Dear sir,

Sub: Information on e-commerce/e-auction activities of MSTC LIMITED for the purpose of preparation of master thesis.

I am pleased to introduce myself as a participant of MBA study program at International Center for Promotion of Enterprises (ICPE), an international and inter-governmental institute conducting this program in association with Faculty of Economics, University of Ljubljana, Ljubljana, Slovenia, Europe. I am sponsored by MSTC LIMITED for this program.

As a part of this study program, I am doing a master thesis on ' The impact of e-commerce/e-marketing'. The main purpose of this survey is to collect the possible information from the connected organisations and individuals regarding the e-commerce portal and the e-marketing facilities offered by MSTC LIMITED and to analyse the collected information in order to compare and suggest the management of MSTC LIMITED the possible improvement in the system and the portal so that the sellers as well as the buyers are served in the best possible way. The data provided by you will be used only for the purpose of preparation of my master thesis and will be kept confidential. No individual or the organisation will be identified in any manner.

I have prepared a structured questionnaire for this purpose which is enclosed with this letter. My earnest request to you is to go through the questionnaire, fill in the space provided there under each question and mail to me at the earliest. If you found that any question is irrelevant to you or your organisation, you may please ignore the same and write ' N.A'. For clarifying any doubt , kindly feel free to contact me in my e-mail address/mobile number given below.

As my thesis is to be completed by 15th of August 2009, I request you to mail your answers to reach me at least at the end of July 2009.

Thanking you,
Yours truly,

(A.Rajamanickam)
Senior Manager, MSTC LIMITED; camp at Ljubljana, Slovenia.
E-mail id: arajamanickam@mstcindia.co.in; Mobile:00386 51297026

Enclosure: Questionnaire

APPENDIX –E

Questionnaire to public sector undertakings (sellers)

Date: 20.7.2009

Sub: Questionnaire on e-commerce/e-auction activities of MSTC LIMITED for the purpose of preparation of master thesis.

1	Company profile
1.1	Name of the organisation:
1.2	Name of the respondent: Designation:
1.3	Total no of employees(approx):
1.4	Main product:
1.5	Annual capacity:
1.5	Annual turnover: Rupees crores (2008-2009)
1.6	Any other, if you would like to mention:
2	Introduction of e-auctions
2.1	Year of introduction of e-auction:
2.1	Major items sold thr' e-auction:
2.2	Quantity sold: MT (2008-2009)
2.3	Sale amount: Rs crores (2008-2009)
2.4	Average no. of new buyers per auction:
2.5	What other modes of disposal do you adopt for selling obsolete inventories:
2.6	If other mode (not e-auction) is adopted, what are the major items being sold:
2.7	If other mode (not e-auction) is adopted, what is the quantity sold:
2.8	If other mode (not e-auction) is adopted, what is the quantum of sale in terms of money: Rs. crores

(questionnaire continues)

(continued)

2.9	What is your preferred mode: E-auction/ tender/ public auction/tender-cum auction Please comment on why:
3	Benefits of e-auctions to seller
3.1	Do you feel that there occurs cost savings with e-auction?
3.2	Cost reductions in terms of administrative expenses(postal, communication, travel etc.): % (approx.)
3.3	Cost savings in terms of reduction in manhours involved: % (approx.)
3.4	Reduction of paper work: %(approx)
3.5	Do you feel that sale price increased on switching over to e-auction: If yes, to what extend: % (approx.)
3.6	Do you feel that entire cycle time for e-auction is reduced: If yes , to what extend: % (approx.)
3.7	Can you please comment on the adequacy of information available in the e-auction portal:
3.8	Pl comment on the transparency of the system:
	Do you feel human interference in the vital and automated activities of the system: If yes, specify the part of activities:
3.9	Could you generate adequate reports/ documents from the system online: If not, what kind of additional reports would you like to have:
3.10	Are you satisfied with the security features of the portal (for example- confidentiality of reserve price fed):
3.11	In general, are you satisfied with the services of MSTC?:

(questionnaire continues)

(continued)

3.12	In overall, are you satisfied with the system of disposal through e-auction?: Reason:
3.13	Additional comments,if any:
4	Difficulties faced by seller
	During inspection by intending buyers
4.1	Any difficties internally where you feel MSTC services can be of helpful:
4.3	Difficulties faced with the buyers:
4,3	Difficulties faced with MSTC portal/ officials:
	Feeding of reserve price in the portal
4.4	Please specify if you face any problem:
	Sale documents and payments
4.5	With respect to EMD/SD:
4.6	With respect to sale orders:
4.7	With respect to balance payment and delivery orders:
	Delivery documents and delivery
4.8	Is buyer identity adequate:
4.9	Is there any other difficulties:
	Additional
4.10	If any:

APPENDEX –F

Letter to customers (buyers)

Date: 21.7.2009

From

Arumugam Rajamanickam,
ICPE, 104, Dunasjka Cesta,
Ljubljana 1000,
SLOVENIA.(Europe)

To

Dear sir,

Sub: Information on e-commerce/e-auction activities of MSTC LIMITED for the purpose of preparation of master thesis.

I am pleased to introduce myself as a participant of MBA study program at International Center for Promotion of Enterprises (ICPE), an international and inter-governmental institute conducting this program in association with Faculty of Economics, University of Ljubljana, Ljubljana, Slovenia, Europe. I am sponsored by MSTC LIMITED (a government of India enterprise) for this program.

As a part of my study program, I am doing a master thesis on ' The impact of e-commerce/e-marketing '. The main purpose of this survey is to collect the possible information from the connected organisations and individuals regarding the e-commerce portal and the e-marketing facilities offered by MSTC LIMITED and to analyse the collected information in order to compare and suggest the management of MSTC LIMITED the possible improvment in the system and the portal so that the sellers as well as the buyers are served in the best possible way. The data provided by you will be used only for the purpose of prepatation of my master thesis and will be kept confidential. No individual or the organisation will be identified in any manner.

I have prepared a structured questionnaire for this purpose which is enclosed with this letter. My earnest request to you is to go through the questionnair, fill in the space provided there under each question and mail to me at the earliest. If you found that any question is irrelevant to you or your organisation, you may please ignore the same and write ' N.A'. For clarifying any doubt , kindly feel free to contact me in my e-mail address/mobile number given below.

As my thesis is to be completed by 15th of August 2009, I request you to mail your answers to reach me at least at the end of July 2009.

Thanking you,
Yours truely,

(A.Rajamanickam)
Senior Manager, MSTC LIMITED; camp at Ljubljana, Slovenia.
E-mail id: arajamanickam@mstcindia.co.in; Mobile:00386 51297026

Enclosure: Questionnaire

APPENDEX -G

Questionnaire to customer (buyers)

Date: 21.7.2009

Sub: Questionnaire on e-commerce/e-auction activities of MSTC LIMITED for the purpose of preparation of master thesis.

1	Company profile
1.1	Name of the firm: Address:
1.2	Status of the firm: Proprietorship/ Partnership/ Private Ltd/ Public Ltd
1.3	Name of the respondent: Designation:
1.4	Major items purchased through e-auction of MSTC:
1.5	Annual purchase in quantity: in MT (2008-2009)
1.6	Annual turnover: Rupees in crores (2008-2009)
1.7	Any other, if you would like to mention:
2	Benefits of e-auctions to buyers
2.1	Do you feel that there occurs cost savings with e-auction?
2.2	Cost savings in terms of free online catalogue, travel, paper work etc.,: Rs. per year
2.3	Do you feel that sale price has increased or decreased on switching over to e-auction:
2.4	If the answer to 2.3 is 'increased', please state to what extend: % (approx)
2.5	If the answer to 2.3 is 'decreased', please state to what extend: % (approx)

(questionnaire continues)

(continued)

2.6	Do you feel that entire cycle time for purchase in e-auction is reduced: If yes, to what extend: % on physical auction/ tender
2.7	Is the information provided on e-auction portal adequate to carry out your purchase activities:
2.8	Pl comment on the transparency of the system:
2.9	Do you feel human interference in the vital and automated activities of the system: If yes, specify the part of activities:
2.10	Do you get your required documents from the system online: If not, what kind of additional reports would you like to have:
2.11	Are you satisfied with the security features of the portal :
2.12	Do you purchase any item through any other mode (other than e-auction) through MSTC:
2.13	If yes, Name of the major Items : Approximate quantity in MT : (2008-2009) Approx. purchase quantum in rupees: (2008-2009)
2.14	In general, are you satisfied with the services of MSTC?: Pl. comment:
2.15	What is your preferred mode: E-auction/ tender/ public auction/tender-cum auction Please comment on why:
2.16	Additional comments, if any:
3	Difficulties faced by buyer
	New e-auction information
3.1	Do you get new e-auction alert in time regularly:

(questionnaire continues)

(continued)

3.2	If not, have you informed concerned officer in MSTC:
3.3	After informing MSTC, do you get feed back:
3.4	Do you get all information online to prepare yourself to go for inspection of materials:
	During materials inspection
3.5	Difficulties faced with the seller:
3.6	Difficulties faced with e-auction terms:
	During e-bidding
3.7	Is the webpage speed enough to register your bid: Name of ISP being used by you: Its bandwidth:
3.8	What kind of difficulties do you face during bidding:
	Sale documents and payments
3.9	Do you get sale intimation letter allert in time:
3.10	Difficulties of time frame in remittance of EMD/SD:
3.11	Do you feel that there appears time delay in issuing sale order:
3.12	Do you get Sale Order online:
	Delivery documents and delivery
3.13	Do you feel that there is time delay in issuing Delivery Orders by MSTC:
3.14	Are the documents issued to you sufficient to take delivery from seller: Pl comment:
3.15	Problems faced with seller:
3.16	Problems faced with MSTC:
	Additional
3.17	If any:

APPENDIX –H

1.1 Demand for raw materials

Demand for iron and steel

In urban area, the present steel consumption per capita per annum is about 30 kilo gram(kg) in India, compared to 150 kg in the world, and 350 kg in the developed world.. The estimated urban consumption per capita per annum is around 77 kg in the country, expected to reach approximately 165 kg in 2019-20, implying a compounded aggregate growth rate (CAGR) of five percent. Apart from the anticipated growth in the construction, automobile, oil and gas transportation, and infrastructure sectors of the economy, conscious promotion of steel usage among architects, engineers and the large producers will drive this additional consumption. Steps are be taken to encourage usage of steel in bridges, crash barriers, flyovers and building construction (National steel policy, 2005).

In rural areas, the rural consumption of steel in India remains at around two kg per capita per annum, primarily because steel is perceived to be expensive among the village folks. Based on the promotional efforts, a target is set by the government of India for raising the per capita rural consumption of steel to four kg per annum by 2019-20, implying a CAGR of 4.4%.

Table 1.1. Production, Imports, Exports and Consumption of Steel

(in million tonnes)

	Production	Imports	Exports	Consumption
2019-20	110	6	26	90
2004-05	38	2	4	36
CAGR*	7.3%	7.1%	13.3 %	6.9 %

Note: CAGR- Compounded aggregate growth rate

Source: National steel policy 2005, ministry of steel, government of India

It is evident from Table 1.1 that the production of steel in the country is set to grow at the rate of 7.3% with export and import at the rate of 13.3% & 7.1% respectively leaving a domestic consumption at the rate of 6.9% annually. Steel production in the country is quite sufficient to meet the demand of indigenous consumption and the country could also export the surplus steel products.

Demand for iron ore

Iron ores are rocks and minerals from which metallic iron can be extracted. It is the raw material used to make pig iron, which is one of the main raw materials to make steel. About 98% of the mined iron ore is used to make steel. India's global position is fifth in terms of known iron ore reserves. It has 25 billion tonnes of reserves, of which 15 billion tonnes are

reported to be hematite and the rest magnetite at cutoff grades of 55% iron content as per Indian Bureau of Mines (weekender, 2007).

Public sector companies such as Steel Authority of India Limited (SAIL) and National Mineral Development Corporation Limited (NMDC) have dominated the iron ore production space in India. However, the phenomenal rise in iron ore prices has led to increased private sector interest. The share of private companies in iron ore production has risen from 45% to 60% in the last five years. In addition to the ownership differentiation, iron ore production is currently dominated by non-captive mine owners, accounting for 78% of the total (weekender, 2007).

India produces around 155 million tonnes of iron ore (including both lumps and fines) out of which about 52 million tonnes were used by the domestic steel manufacturers. Of the remaining, around 89 million tonnes were exported and a balance of around 14 million tonnes is left over. The mismatch between demand and supply leads to price volatility witnessed during recent times. Stagnation in steel prices for long periods followed by sudden spurt also affects the consumers and the infrastructure industry.

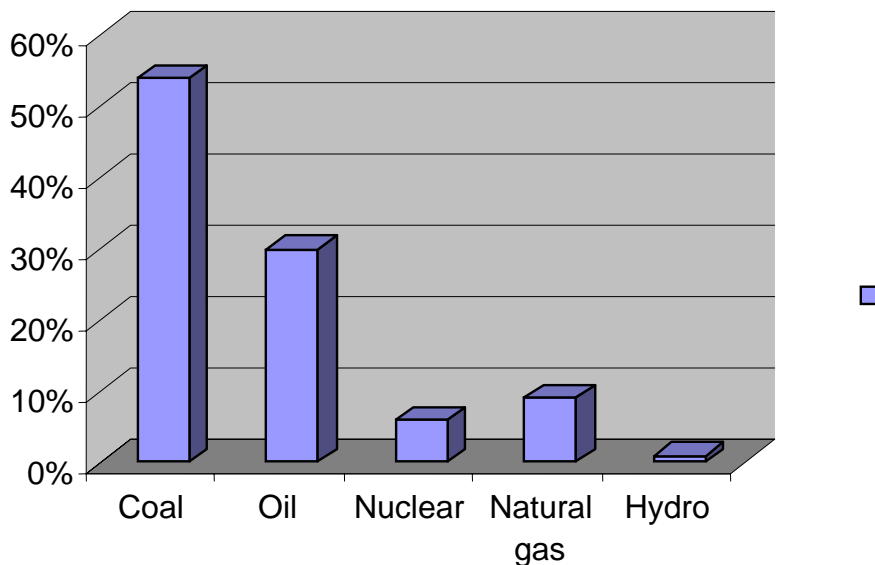
Demand for coal

Coal is one of the primary sources of energy in India. It accounts for about 67% of the total energy consumption in the country. India is the third largest producer of coal and has the fourth largest coal reserves in the world (approx. 197 billion tonnes.) consisting 10 % of the world share of coal reserves. Non-coking coal reserves aggregate 221.2 billion tonnes (85 per cent) while coking coal reserves are 32.1 billion tonnes (the remaining 15 per cent). With the present rate of around 0.8 million tons average daily coal extraction in the country, the reserves are likely to last for more than 200 years (Weekender, 2007)

Coal deposits in India occur mostly in thick seams and at shallow depths. Most of the coal produced comes from open pit mines contributing over 81% of the total production. India has huge untapped potential for underground mining with extractable reserves upto a depth of 600 metres. Currently mining is done to exploit the 64 billion tonnes of proven reserves situated within a depth of 300 metres.

Comparision of Figure 1.1 and figure 1.2 reveals that 52% of primary energy is produced from coal used in generation plants against the world average of 27%, merely half of Indian utility of coal. While we move to utility of oil for primary source, India derives 28% of primary energy from oil against the world average of 37%.

Figure 1.1. Primary Energy Source-India

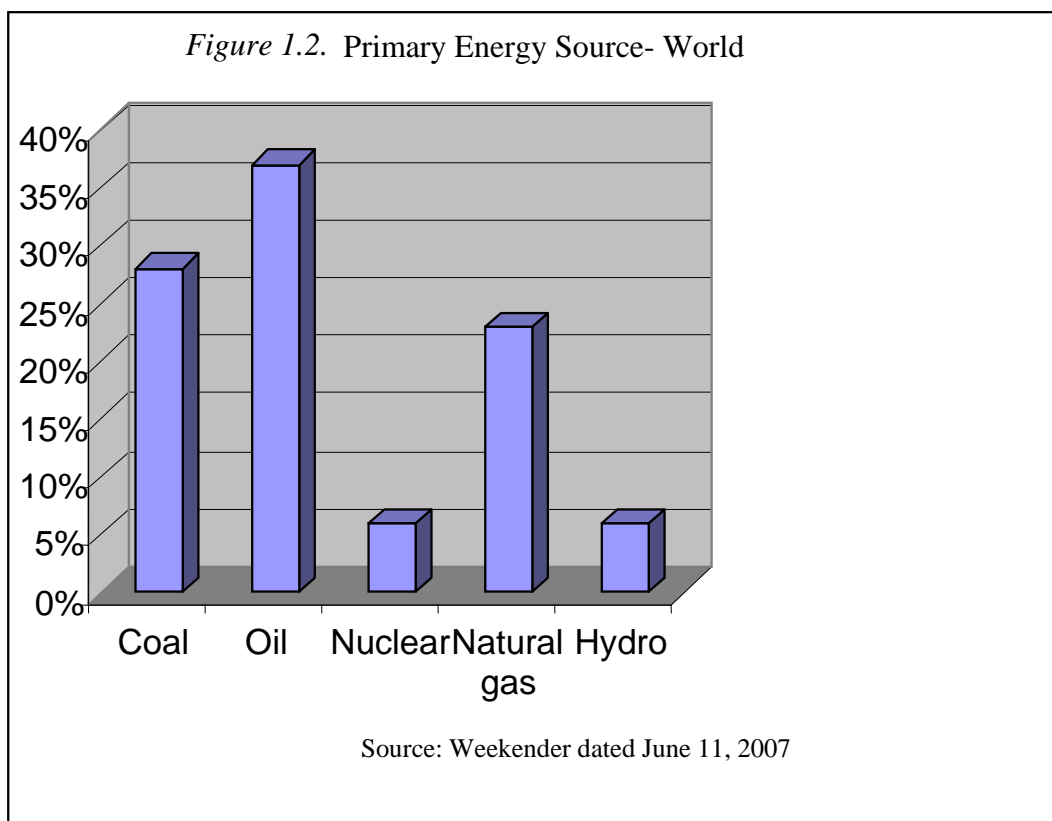


Source: Weekender dated June, 11, 2007

Indian coal has high ash content (15-45%) and low calorific value. Out of the total coking coal consumption, only 30 % is being obtained from indigenous sources and so producers have to depend on imports which are nearly 60-65 %. The energy derived from coal in India is about twice that of energy derived from oil, as against the world, where energy derived from coal is about 30% lower than energy derived from oil.

India is not a major exporter of coal and essentially caters to the demands of neighboring countries like Bangladesh, Nepal and Bhutan. However, there are no restrictions on coal exports under the existing Export-Import Policy of India. India imports small quantities of low ash-content coal principally for use by steel plants, which blend it with Indian coal. Import duties are low and are expected to be lowered further.

Demand for coal has been rising at an annual rate of six per cent since 1992-93 and Coal India Limited and its subsidiaries will be unable to meet the projected demand alone. The investment needed to bridge the gap of 400 million tonnes between the level of production in the public sector (290 million tonnes in 1995-96) and the projected demand of 690 million tonnes (2009-10) is estimated to be US\$ 18 billion. The public sector corporations are expected to increase their production by about 250 million tonnes by 2009-10, subject to their making an additional investment of US\$ 8-10 billion. The balance requirement of 150 million tonnes will have to be met by imports in the short run and by new investments in the long run.



Demand for crude oil & natural gas

During 2007-08, crude oil production in the country was expected to be about 34.763 million metric tonnes (MMT) and 31.67 billion cubic metres (BCM) of natural gas production as against the production of 33.99 MMT of crude oil and 31.74 BCM of natural gas in 2006-07 (Ministry of petroleum, annual report, 2008). During 11th five year plan period of India, crude oil production is likely to increase 24% as against actual crude oil production during tenth plan period. With exploration and development efforts made under New Exploration Licensing Policy (NELP), natural gas production in the country is likely to be doubled from the present level of gas production of about 90 million standard cubic metres per day by end of 11th five year plan. In order to accelerate exploration in the country, more numbers of exploration blocks in onland, shallow water, deepwater and frontier areas are to be offered during 11th plan period resulting in 80% coverage of Indian sedimentary basin.

In view of unfavourable demand-supply balance of hydrocarbons in the country, acquiring equity oil and gas assets overseas is one of the important components of enhancing energy security. The Government is encouraging national oil companies to aggressively pursue equity oil and gas opportunities overseas. Overseas production can be swapped, sold or brought to Indian refineries on commercial considerations.

1.2 Sourcing of raw materials

Raw materials sourcing may be done in two ways. One is through domestic availability and the other one is import through cheaper and convenient sources. Generally industries exploit the possibility of getting the raw materials sourced from domestic market. Depending on the cost and availability of such raw materials in the domestic market, industries may choose import for the cost factor and convenience factor.

Domestic sourcing of iron ore

The consuming industries of iron ore are steel manufacturing industries such as Steel Authority of India Limited (SAIL), Visakhapatnam Steel Plant (VSP), TATA Iron & Steel Company (TISCO), Manganese Ore India Limited (MOIL), Sponge Iron India Limited (SIL), and some other privately owned industries such as ESSAR, ISPAT, JVSL etc. Many of these industries have their own captive iron ore mines. To meet the excess demand, they source the iron ore from the mining industries like National Mineral Development Corporation Limited (NMDC), and Kudremukh Iron Ore Company Limited (KIOCL).

There are mini steel plants like arc furnaces and induction furnaces which also contribute to the steel production of the country. These industries recycle the iron and steel scrap and wastes in the production of steel. There are re-rolling mills which produce finished products like twisted bars, angles like long products. Arc and induction furnaces and re-rolling mills either use the locally available scrap for melting and re-rolling or import depending on the supply and demand situation and corresponding prices of the scrap.

As such, India is self-reliant on the iron ore and it normally does not import iron ore. Instead the excess capacity of iron ore available in India is being exported.

Domestic sourcing of coal

The natural resource of coal is available spreading breadth and length of India. The consuming industries of coal are mainly power generating plants and partly steel industries. In India the thermal power generating industries include National Thermal Power Corporation Limited (NTPC), State Thermal Power Stations (STPS) and other private industries. Coal is also used in some other industries in which they have their own captive power plants for self-reliance in their electricity requirements. In the power generating plants, coal is pulverised and the pulverised coal is used as fuel in the boilers. In steel industries, coal is converted into coke which is used as fuel in the production of pig iron, and also as a reducing agent in the smelting of iron ore in blast furnaces. This is also mixed with molten pig iron to have different composition in the steel based on different grades of steel. Coal is being used in the cement industries also in the driers. In small share, it finds itself in the brick industries.

The sourcing is done both by domestically as well by import. The domestic source is the coal mining companies like Coal India Limited (CIL) and its subsidiaries through out India, The Singareni Collieries company Limited (SCCL) in the state of Andhra Pradesh, Neyveli Lignite Corporation Limited (NLC) in the state of Tamil Nadu and other coal mining companies in the country are the producers of coal. Domestically available coal has high ash content and low calorific value. Therefore the consuming industries, besides sourcing domestic coal on the major part, also import coal from China, Australia, Indonesia etc., where the ash content of the coal is less and having high calorific value.

Domestic sourcing of crude oil

In India, Oil and Natural Gas Corporation Limited (ONGC) is the largest company that involves in drilling and exploration of crude oil and natural gas both in offshore and onshore. The other national company involved in similar activities is Oil India Limited (OIL). Gas Authority of India Limited, which is also a national company, is exploring the gas reserves in the country. Private and joint-venture companies are engaged in the exploration and production of oil and natural gas in the country. Crude oil production by the national oil companies during 2007-08 was expected to be about 29.663 MMT. In addition, there will be production of 5.1 MMT from the private and joint venture companies during 2007-08. Thus, total crude oil production in 2007-08 was expected to be about 34.763 MMT (Ministry of petroleum, annual report, 2008).

To meet the deficit, government of India imported crude oil to a tune of 769.738 MMT and other petroleum product to a tune of 12.710 MMT during 2007-08. the production and exploration in India could not meet the domestic demand and hence government of India depends on the Organisation of Petroleum Exporting Countries (OPEC) and other oil exporting countries to fulfill its crude oil needs. Any fluctuation in the international prices of crude oil largely affect the economy of India.

Sourcing of industrial inputs by way of import

The import may be done on different terms as it involves international transactions. Those industries which are having enough experience in handling import matter and financially sound go directly in locating the foreign seller who supplies the required item and complete the transaction with the seller. For those who do not have adequate experience and who is in need of financial help, MSTC LIMITED arranges the import for the industries. The mode and terms of import and delivery of goods differ with different industries in order to suit their needs. The imported materials will be sold to the customers as per the following mode:

1. **High seas sales:** MSTC LIMITED will arrange the import and transfer the title of the goods to the customer when the goods have been shipped and are on high seas, by way of issue of high seas sales certificate. Before issue of this certificate MSTC LIMITED ensures collection of material cost and all other charges connected with this import

including service charges for it. This certificate is handed over to the buyer alongwith import documents and provisional invoice prepared by MSTC LIMITED. The entire responsibility has now been transferred to the buyer. On arrival of ship at the delivery port it is the responsibility of the buyer to pay and clear the customs duty and port charged and take delivery of the imported goods.

2. **Ex-dock sale:** Imported materials upon arrival in the dock of the delivery port, MSTC LIMITED takes the responsibility to clear the materials through customs formalities by paying the requisite duty and also port charges. Now the materials will be sold on ex-dock sale basis. In this case the payment to MSTC LIMITED by the buyer includes the payment as in the case of high seas sale plus the customs duty, port charges, clearing and forwarding charges and all other charges incurred by MSTC LIMITED in this respect.
3. **Ex- stockyard sale:** In this case, imported material will be cleared by MSTC LIMITED and materials will be transported to its stockyard and remain under the custody of MSTC LIMITED. Delivery will be made to the customer only against payment of all costs and expenses to MSTC LIMITED which includes storage, security, insurance, material handling etc. and its service charges.
4. **Sale on facilitator mode:** In such cases, MSTC LIMITED basically finance the import and the importer is the buyer. The entire procedure to be followed in this transaction framed in advance and signed by all concerned parties before placement of purchase order. The purchase order is signed between the buyer and the foreign seller with MSTC LIMITED as facilitator. The foreign letter of credit will be opened by MSTC LIMITED in favour of the foreign seller, but the documents will be in the name of the actual Indian buyer. As such the cargo is to be pledged by the buyer to MSTC LIMITED from the date of bill of lading. A corporate guarantee is to be executed by the buyer in favour of MSTC LIMITED and the buyer also furnishes enough security deposit. Payment should be made as per the terms and conditions agreed in the memorandum of agreement signed in advance between buyer and MSTC LIMITED. In such cases, the import documents are to be handed over to the customer upon ensuring the payment arrangement, security, bank guarantee and corporate guarantee. The buyer may make payment as per terms of memorandum of agreement (Operational manual, international marketing, 2001).

APPENDIX-I

Abbreviations

AMA	American Marketing Association
AP	Andhra Pradesh
B2B	Business-to-Business
B2C	Business-to-Consumer
BCM	Billion Cubic Metre
BHEL	Bharat Heavy Electricals Limited
BPCL	Bharat Petroleum Corporation Limited
C2C	Consumer-to-Consumer
CARG	Compounded Aggregate Growth Rate
CI	Cast Iron
CIL	Coal India Limited
CLC	Customer Life Cycle
CRM	Customer Relationship Management
DD	Demand Draft
E-commerce	Electronic commerce
ED	Excise Duty
EDI	Electronic Data Interchange
EFT	Electronic Fund Transfer
eHub	Electronic Hub
E-marketing	Electronic marketing
EMD	Earnest Money Deposit
G2B	Government-to-Business
G2C	Government-to-Consumer
HPCL	Hindustan Petroleum Corporation Limited
ID	Identification
IOC	Indian Oil Corporation Limited
ISO	International Standard Organization
ISSAI	Indian Steel Scrap Association of India
IT	Information Technology
JVSL	Jindal Vijayanagar Steel Limited
kg	Kilogram
KIOCL	Kudremukh Iron Ore Company Limited
MB	Mega Byte
MBA	Master of Business Administration
M-commerce	Mobile commerce

(abbreviation continues)

(continued)

MMT	Million Metric Tonne
MMTPA	Million Metric Tonne Per Annum
MOIL	Manganese Ore India Limited
MS	Mild Steel
MT	Metric Tonne
MW	Mega Watt
n.d	No Date
NELP	New Exploration Licensing Policy
NGO	Non-Governmental Organisation
NLC	Neyveli Lignite Corporation Limited
NMDC	National Mineral Development Corporation Limited
NTPC	National Thermal Power Corporation Limited
OECD	Organization for Economic Co-operation and Development
OIL	Oil India Limited
ONGC	Oil and Natural Gas Corporation Limited
OPEC	Organisation of Petroleum Exporting Countries
PLC	Product Life Cycle
PSU	Public Sector Undertaking
Qn. No.	Question Number
RMA	Risk Management Association
ROI	Return On Investment
Rs:	Rupees
RTGS	Real Time Gross Settlement
SAFAI	Steel Arc Furnace Association of India
SAIL	Steel Authrity of India Limited
SCCL	The Singareni Collieries Company Limited
SD	Security Deposit
SIL	Sponge Iron India Limited
SLA	Service Level Agreement
SMEs	Small and Medium Enterprises
SS	Stainless Steel
STPS	State Thermal Power Station
T&B	Turnings & Borings
TISCO	Tata Iron and Steel Company
UK	United Kingdom
UOM	Unit Of Measurement
US	United States
VAT	Value Added Tax
VSP	Visakhapatnam Steel Plant

