CHAPTER 1
INTRODUCTION

Indian CEOs were slowly waking up to the immense potential of digital revolution sweeping across the global business scenario. They started thinking of ways in which Information Technology (IT) could be used to stop the loss of thousands of crores of rupees due to the wastage in the transport and storage of goods. It was a visionary challenge and answer to that challenge is today’s Electronic commerce or more specifically Business to Business (B2B) e-commerce.

A customer always demands quality service. E-commerce helped in acquiring and retaining loyal customers by providing consistent quality of service. At the same time it was essential to reduce expenses by improving order-processing efficiency, while reducing inventory-carrying costs. This improved competitive advantage and enabled managers to focus on actual business processes. E-commerce was a set of integrated software components that provided a solution for businesses to sell goods and services through an electronic catalogue on the Internet. E-commerce was ideal for both Business to Business (B2B) and Business to Consumer (B2C) applications and integrates seamlessly with a company’s existing business systems. It could even effectively used as a virtual broker for a Consumer to Consumer kind of business. The economy had been transformed by digital technology in the post industrial period. Value creation had shifted from physical goods to an economy that supported service, information and intelligence as the sources of value creation.

E-commerce extended beyond buying and selling to streamlining the entire operations of an organisation. It enabled a faster penetration into the market and
turnaround of investment quickly for lowering costs. It also enabled strengthening of relationship among customers, partners, suppliers, distributors and marketing and sales personnel. European Union website (Esprit, 1997) defined as “Electronic Commerce is a general concept covering any form of business transactions or information exchange using information and communication technology, between companies, between companies and their customers, or between companies and public administrations. Electronic Commerce includes electronic trading of goods, services and electronic material”.

For a country with the length and breadth of India, web-enabled supply chain management in a B2B scenario would save Indian business a colossal amount of money that’s now being spent on communication. If well implemented, B2B e-commerce could help in bypassing the insurmountable obstacles in developing infrastructure that an economy in a hurry could ill-afford. Despite the dead weight of convention, the Indian business community had always been quick to notice anything which slashed lead time and costs around and maximises profits.

Classification of B2B e-commerce:

There were different types of many to many and one to many E-market models. But the Researcher selected classification based on the ownership of the exchanges and the governance structure. There were three categories such as independent, consortia, and private portals. The characteristics and the operational

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dynamics of these three types were significantly different as to warrant special attention.

**Independent Portals:** There were hundreds of pioneers who started E-market places from dairy farmers to casket makers. Only a few of the business survived. They could not get enough buyers and suppliers to do online business. With increased competition, decreased venture capital funding and hostile stock markets, most of the independent E-marketplaces were under intense financial pressures by 2001. Most of these portals operated in domains with low entry barriers. Management teams comprised of technical executives who lacked business skills and industry-specific knowledge. Some of them with a sound technical infrastructure became service providers to other firms in the B2B segments. But for an independent portal to survive over a long time, it needed to have a form of hard-to-imitate and value-added service model that gave an edge over the competition.

Examples of independent portals were chemdex, e-steel, autotrade center.com, chemical desk, chemB2B.com, etc.

**Consortia-based Portals:** It was a type of joint venture between different firms with an overall goal of improving their performance and that of the industry as a whole. Here the various players and competitors combine together to form common platform for B2B e-commerce. For example Covisint was a common platform created by Daimler Chrystler, Ford and General Motors. Another consortia marketplace was Transora formed by consumer-products companies such a Unilever, Procter & Gamble and Coca Cola as well as Grocery Manufactures. Avendra was established by Marriot, Hyatt and three other major hotel chains. Exostar was an exchange in the
aerospace sector formed by companies such as Boeing, Raytheon, Lockheed Martin and BAE systems. The consortia model had an inherent advantage in the form of high liquidity from their own founders.

Depending on the vested interests of the key founders, consortia portals might treat other industry players unfairly or even engage in activities such as price-fixing, exclusion from participation in portal. Major hurdles facing consortia were antitrust and other regulatory issues. Many such models failed to come up with attractive value propositions for suppliers. Some portals required the suppliers to do all transactions through the portals and ask them to pay the transaction fees. In order to avoid issues raised by such system it was better to build confidence measures such as joint procurements, sharing of emergency inventories, joint coordination of logistics, etc. or provide an active role to the supplier as development partners in determining the functionalities of a portal and the product offerings.

**Private Portals:** A private portal was a single-firm operated, web-based hub that connected a firm to its business customers, suppliers or both. The complete control of the private portals were in the hands of the company running it. These portals were developed not to locate new customers or suppliers; however they provide a cost-effective way to improved and enhanced linkages and processes established with suppliers and customers. The private portals offered full range of facilities like an Electronic Data Interchange (EDI). Companies such as Motorola, Dell, Cisco, and Wal-Mart had established private portals to establish closer relationship with their business partners and achieve considerable process efficiencies and cost savings.
The private portals could again be classified as buyer-based or seller-based. Buyer-based private portals connected buyers firms to their suppliers, thereby providing effective and efficient supply chain operations. They typically facilitated online ordering, invoicing, and shipment/delivery confirmation. They also helped collaborative planning and replenishment, forecasting, joint product design, etc. For example, Wal-Mart allowed its suppliers access to the history of customer transaction data, and the suppliers used this data to analyse the sales trends, plan their production, and manage their inventories accordingly. Such portals helped the supplier to respond quickly to customer demands and managed their processes more efficiently by having privileged access to the buyer’s system.

In a seller-based private portal, the company established B2B relationship with its customers using a web site. This helped to manage customer orders, product specifications, customer support and such activities. Cisco’s private portal allowed customers to configure, place and check their orders on the portal. In some private-seller portals, the seller can even examine a customer’s inventory and replenish automatically. These portals could also be used for collaborative planning, forecasting and joint product design.

In 2001, Motorola implemented a B2B private portal through which its dealers and customers could log on and obtain product-related information and also fully managed their accounts. Apart from product information service support, as well as managing the orders, customers also had the authority to control who could place orders, who could get access to their internal accounts information which ultimately reduced the delivery time and improved customer satisfaction.
The private portal model, B2B e-commerce supported a firm's unique strategy and organisational needs. It also provided the flexibility of tailoring a portal to meet firm-specific requirements and strategic goals. For example, Dell enjoyed a formidable position in the computer industry due to its built-to-order supply-chain capabilities which opted to have its own private portal.

History of Business to Business e-commerce:

The concept of Business to Business informational systems originated in inter-organizational systems (IOS), where computer systems of companies exchange information. Companies like American Airlines and American Hospital Supply and Products (AHSP) pioneered this concept in the 1960s. AHSP saved labor costs by connecting its customer and hospitals directly via computers with their in-house ordering system. This facility which saved time and postage was opened only to the customers and not to the employees. Customers could track the orders online. AHSP's ordering system built a strong relationship with the customers who were reluctant to migrate to a competitor's system. This system enhanced operational efficiency, customer relationship by providing innovative service and responsive ordering system for the customers resulting in better prices for its products.

Implementation of B2B e-commerce:

The first big challenge for Indian companies wanted to do business on the net was to draw up a road-map of what they wanted to do and how they would like to do it. An E-commerce solution could be built in five stages. First was to put information on the organisation and product information on the Internet using a website. This could also be effectively used to get customer feedback on the product. Second was to
connect people electronically and to disseminate fast changing information, a messaging and publishing facility has to be implemented. This would also helped to improve customer service. Third was to reduce the cycle while reaching the customer and to improve customer service. For this, the entire organisation workflow has to be automated. An intranet helped to accomplish this task. Fourth was the purchase and payment process of suppliers which needed to be automated. This could be accomplished by connecting all vendors to an extranet. Lastly automation of payments systems and service support could be accomplished. This has to be linked to the company’s Intranet to realise the full potential of E-commerce benefits.

Without doubt E-commerce had pervasive effect on both business and society. The movers and shakers of Indian industry must first take a look at what has to be gained and how it could be achieved. The mental block that would have to overcome for decision makers in organisations were to clearly understand that E-commerce goes beyond just creating a company website. Even the experience of operating corporate intranets and extranets counts for very little.

The entire business was integrated and thrown open to the world from internal and external sources. Though powerful security technologies, including encryption, authentication, firewalls and intrusion detection systems were available, it was the responsibility of the organisation to intelligently select, combine and introduce the technologies right from the launch of the project.

Money transaction was the essential feature of E-commerce. It was important to implement secure, cost-effective and reliable ways to collect payments and process transactions over the Internet. There were plenty of software products that would take
care of the actual transactions. The transaction system of E-commerce take care of the twenty four hours a day, seven days a week uptime of the application, transaction integrity, concurrent system interface, ability to handle the increase in volume of transaction, risk management and recovery system. While building the transaction layer, the organisation aimed at achieving faster response time and transaction closure.

E-commerce implementation should be in a phased manner. Before actually getting in the development stage, the organisation should plan the type of E-commerce application that has to be built first. What ever may be the type, development should start only after implementing the legacy system, interface layer and data management layer. Organisation should make a checklist of the best business practices, infrastructure and the customers/partners, before and after implementing E-commerce applications. The E-commerce development team should by default include professionals drawn from various divisions namely Management Information System (MIS), Enterprise Resource Planning (ERP), Procurement, Inventory, Marketing, Quality and Software Development.

The forces exerted by rapid changes in technology and customer expectations were unstoppable. So the need to constantly re-evaluate and reinvent the existing business processes became inevitable. The key in ensuring success in any major exercise or initiative would be to focus on fundamental guidelines. Lay the foundation strong, plan carefully and implement.

Implementing B2B e-commerce, required a change in the business culture because all organisations implementing B2B network has to upgrade their knowledge,
equipment, work culture, etc. to suit the web. B2B e-commerce would grow only when the two business partners – supplier and the buyer or company and vendor were of the same or comparable kind. In the Indian IT industry, B2B e-commerce transactions were easier because the partners were of the same calibre, culture, values and they understand each other very well. But much of B2B e-commerce in India, was not only limited to Indians buying from sites of other countries but also others buying from Indian companies which means both inflow and outflow of cash. At the moment, most E-commerce initiatives were supported by paper transactions so that the B2B system works only as an advance information system. A major challenge was educating the corporate mass about B2B e-commerce. A majority of Indian companies which implemented or were in the process of implementing ERP strategies was thinking of integrating with the web.

**E-commerce Scenario in India:**

Indian enterprises were on the threshold of the B2B e-commerce era, though they approached it with hope, anxiety and hesitation. The awareness curve of the Indian businesses with respect to B2B e-commerce was slowly climbing and shows promise of turning into a learning curve and later into an implementation curve.

According to a modest estimation of Price Water House Coopers, the business volumes in India would touch Rs.40000 crores by 2003. The size of the market that could potentially be online was massive, considering the whole middle class population of 200 million plus, which would take advantage of discounted win faxes, on-line publications, on-line education as well as Business to Business (B2B)
transactions. Indian market has a lot to offer in terms of customer service, retailing and distribution also, given the need for the same.3

Hindustan Lever Ltd. (HLL) had put in place a formidable network connecting all its suppliers and started a project for wiring up its 7500 distributors. The next step would be connecting its top retailers and using the Internet as a platform for transactions. Reliance Industries aimed at establishing itself in each step of the net value-chain from content to broad band, from entertainment to last-mile access. Reliance made firm beginning in several nodes of its ICE (Information, Communication and Entertainment) food chain and could well emerge as the biggest mover in the current new economy. Larsen & Toubro (L&T) had stepped into the net world with a global financial portal. JK Industries planned to strengthen its tyre business by facilitating B2B e-commerce (with dealers) and B2C e-commerce (with customers) transaction. The Calcutta-based Apeejay Surrendra Group was weaving an E-Business strategy that was built around its existing strengths in tea and financial services. The R.P. Goenka Group built 10 vertical portals around its existing businesses like power, music and financial services. Gramaphone Company of India was selling music online through www.saregama.com. The State Bank of India (SBI) has already invested Rs.400-500 crore in computerising and E-enabling its operations country wide.4

In 2000, eight Indian automotive industry majors-Hindustan Motors India Ltd., Maruti Udyog Ltd., Bajaj Auto Ltd., Ashok Leyland Ltd., Hero Group, Mahindra and Mahindra Ltd., Tata-Engineering Ltd. and TVS-Suzuki Ltd. came

3......, "Golden Chance Slipping Out of Hand?" Fortune India 30 September 1999: P 14-16.
together to launch a vertical portal to take advantage of the emerging E-commerce possibilities. The site was essentially to cater to the supply chain management and exchange of information between buyers and sellers. The concept was based on a US based website covisint.com, where three global automakers General Motors, Ford and Chrysler - tied up to create a meeting point for suppliers and manufacturers. Many companies like Henkel India Ltd., Nestle India Ltd., Procter and Gamble India Ltd. and ITC Bhadrachalam had been using intranets from the end of the year 2000. Their employees were able to log into the network to check for various information about the organisation and their competitors. Once they felt the staff was comfortable, suppliers and vendors would be added to the network.

ITC Ltd. deployed the Internet in its initiative to web-enable its farmer community. The programme “e-choupal” had been launched for soya farmers in Madhya Pradesh and gave them information about weather, farm practices and global prices that affect them directly. The company created a website that now provided fashion consultancy. Its printing and packaging division used the net for B2B e-commerce applications and the hospitality business for B2C e-commerce purposes.

Eventhough the manufacturing or Fast Moving Consumer Goods (FMCG) companies have started developing the Internet strategy, it was undoubtedly the banks that have gone ahead with their internet processes and net enablement in place. The private banks like Industrial Credit and Investment Corporation of India Ltd. (ICICI), Housing Development Finance Corporation (HDFC), Global Trust Bank (GTB), etc. started offering services through the web.

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Conventionally, the FMCG companies automated their workflow application to start with, then more to the other areas like distributions and sales, purchases, customer relations and finally used the web to retail their products. For example, Proctor and Gamble India Ltd. had been using the net to focus on key areas creating new customer relations, developing new ways to create, market and sell its brands, by streamlining the supply chain, and developing new partnerships. The company said that the Internet gave an unparalleled reach to consumers and incredible speed for interaction of ideas. It expected to save forty percent of its expenses, traditionally made for conducting market surveys. Another interesting observation by the company was that it was very easy to seed a brand name into the minds of the people even before its physical launch (for eg. www.themacare.com) which would help the customer to purchase it much easier to a geographical launch.

Apart from the Internet, the wireless connectivity for the sales-force was mooted for better communication. JP systems in Hyderabad developed a pilot project for HLL sales-force automation by way of hand-held organisers on which itinerant sales-man can gather useful retail data. A number of private banks (like ICICIdirect.com, GTB and HDFC) dematted their stocks enabled traders and individuals to make use of the Internet for trading. But it was only the National Stock Exchange Information Technology (NSE IT) and financial technologies that were put to use by people. NSE IT offered front-end trading software, which could be used by an investor. This software acted as an interface between broker, stock exchange, and the depository participant. Internet trading helped people to react in buying and selling the stocks, without calling up the broker or going all the way to his office. In

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spite of seamless trading and real-time settlement, the system had attracted only few takers because of the security issues.

The traditional brick-and-mortar companies did well when they conducted business over the net because they established a substantial physical network. By adding Internet they would be improving their efficiency and performance in their supply chain management. Realising the click-and-mortar advantage, amazon.com have already setup warehouses all over the United States. The music portal mp3.com's planned to be present in every big music shop with the offer of presenting just missed CD-Roms. This was in fact the reason why Dell Computer tied-up with Gati for delivering its computers to consumers. But there was no point for a company which is selling products like medicine or eatables to have a central warehouse in Mumbai or Calcutta to cater to customers at Cochin. So all these has to be sorted out before offering product via the Internet. But still, the front-end of the E-commerce websites did well even though a lot remain to be done on the back-end integration of finance, inventory and delivery of goods.

According to the preliminary findings of the study, E-commerce transactions accounted for revenues worth Rs.450 crores during the financial year 1999-2000. While Rs.400 crores was achieved through Business to Business (B2B) transactions, Business to Consumer (B2C) contributed the remaining amount. It was estimated that the worldwide revenues of E-commerce transactions crossed the Rs.15,000 crores mark in the year 2001-02. While Rs.13,200 crores of E-commerce revenues were accounted for B2B e-commerce transactions, Rs.1800 crores came from B2C transactions. The report also revealed that besides the significant potential that E-commerce offers for Indian software exports, the impact of its proliferation would
also be felt in the domestic market both in the B2B and B2C segments. E-business services in the domestic market were to the tune of Rs.1500 crores in 2001-02 and nearly doubled thereafter to Rs.3000 crores in the year 2002-03. The survey said that B2B transactions were bound to become increasingly popular within the country. Global B2B solutions providers like CommerceOne, Ariba and i2 technologies have already set up operations in India. Indian majors like Maruti Udyog Ltd., Hindustan Lever Ltd., Bajaj Ltd., etc. are getting intensively active in the B2B e-commerce.

E-commerce emerged as a major technology and business opportunity for Indian software houses. In the year 1999-2000, the new E-commerce related software services brought in $500 million out of estimated $5.7 billion software and services exports worldwide. Supply Chain Management (SCM) optimisation and Customer Relationship Management (CRM) were going to be some of the strongest drivers of the global E-commerce solutions market. Over sixty eight percent of Indian software houses reported of strong expertise in SCM and CRM solutions. Some of the areas of E-commerce services likely to gain currency were legacy application, EDI and business web site development and maintenance.

B2B e-commerce sites connected different type of businesses or different parts of business. B2B transactions take place between an industrial manufacturing wholesalers and retailers. Some of the sites were indiaconstruction.com, clickforsteel.com and seekandsolution. World's leading B2B sites include sesami.com, commerceone.com and ariba.com. According to the Nasscom-BCG report, the Korean Conglomerate LG Electronics estimated their margin of benefit though web enabled supply chain initiatives on information sharing and procurement efficiencies.

7 "Blame it on Numbers", Computers Today, September (20000: p 64.
will be up to 1.5 to 2 percent. But for Indian companies Gartner study stated that IT spending in India in 1999 - 2000 was $8.67 billion and $12.2 billion in 2000-01.

In 2005, the potential export of Indian IT services may be as much as $40 billion. Boston Consulting Group said that E-commerce transaction volume would expected to grow to Rs.1,95,000 crores by 2005, of which the majority of transactions will be accounted by B2B e-commerce in spite of numerous barriers existing in India.

India has vast potential in this field. But it was imperative that the Indian IT industry develop a customer-oriented marketing and implementation approach focused on end user clients as opposed to a technology oriented sales-pitch. Several companies have already web-enabled their businesses. Satyam developed an engine that could be used to develop platforms for any industry. Auto companies formed ian.com for auto exchange. But when we considered the biggest internal B2B player, Maruti Suzuki Ltd. did a large part of their purchasing and dealer-networking online. But still the Government has to resolve the inter-bank settlement standards. Some of private banks like Industrial Development Bank of India (IDBI) started inter-bank settlement in selected cities. Despite their problems the fact remains that companies made incredible headway.

The increasing complexity of supply networks, the globalisation of businesses, the proliferation of product variety, and shortening of product life cycles were fostering companies to draft B2B e-commerce strategies. Effective use of B2B e-commerce for managing and operating resources could reduce cycle time, and hence increased profitability. B2B e-commerce constituted sharing of business information

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such as inventory information, demand information, production schedules, demand and supply forecasts among business partners. The ways of doing business in a supply chain such as E-auction, E-exchange, etc. were increasingly becoming popular in world wide as well as in India as more and more companies were integrating their Enterprise Resource Planning (ERP) to customer and supplier systems.

The Information Technology that supported B2B e-commerce could be classified into Networks Layer and Application Systems Layer. The network layer technology includes Value Added Network (VAN), Extranet and Virtual Private Networks (VPN). The application systems layer technology was Electronic Data Interchange (EDI), Extended Enterprise Resources planning systems (E-ERP) and Supply Chain Management (SCM) systems.

Many large Indian companies had been using EDI over VPN for the last 10 years. However EDI over VAN had been confined to limited number of large companies despite pressure from WTO as well as Government of India. The high cost associated with the implementation of EDI had been one of the major barriers for its poor adoption by Indian corporate, particularly small scale enterprises ERP systems for B2B e-commerce.

Successful Cases:

Indian corporates such as Hindustan Lever Ltd., General Motors India Ltd. and Godrej Group were yet to adapt the most well known B2B e-commerce technology, such as i2 technology and CommerceOne. These technologies were expensive and may not result in any return on investment due to lack of other infrastructure and services such as third party and fourth party logistics in the country.
At Hyundai Motors India Ltd. the net based front end and back end business process emerged as key enabler to drive supply chain integration. The E-business approach aimed at real-time information disbursement, reduced costs, increased flexibility, faster response time, better utilisation of assets, reduced supply, lead time efficiency improvements, enhanced customer service and responsiveness. One of the main advantage of B2B e-commerce was the ability to manage services related to purchasing, order management, tracking, invoicing, accounting, warranty, inventory, deliveries and other data interchange on the Internet enabling dealers to update their common dealership management system—auto deal. The present features enabled the company’s channel partners to enter orders, view the status of orders and shipping details apart from access to HMIL’S web site. The web site also permitted dealers to have a regular query / answer service through a feedback / dialogue box called ASKUS.

Hyundai Parts-Systems team and Information Technology team were now working on making the data access to be on online basis instead of it being in batch mode. For achieving this purpose, it planned to set up data centres and networking of dealers to a server. Hyundai Motors India Ltd. (HMIL) was the first auto company in India to introduce digital signature technology to make the application legal and secure. HMIL also have parts locator, which used to trace parts availability at dealerships across the country. In case of a stock out or a vehicle off road, dealer could serve customer faster than usual, thereby increasing patronage for new car sale. Dealers could view their payment passbook and their credit balance with HMIL online. The company planned to link the site for real-time tracking of consignments.
Hyundai customer care parts introduced collaborative planning, forecasting and replenishment of parts for dealers. The stock status and demand history data collected from dealers would be used to manage the dealer’s inventory. This helped the dealership managers use their time effectively in profit-making sales and marketing activities rather than money-spending procurement and receipt tracking activities. This Hyundai–managed inventory system reduced inventory levels across channels to evolve customer service-oriented inventories. So ultimately the company and its channel partners intended to cut costs drastically with the savings running into lakhs.

The Delhi based Mahamaza.com, a fledging E-commerce company had been making what most of the manufacturers could only dream of doing in India. The people in the small town can log on to the site and order branded products by the click of a mouse. Mahamaza reached 2000 – odd towns in India, making available some 100 – odd products of 32 brands across 17 different categories in 2004. Most of the business had been happening from the interiors of Uttar Pradesh, Bihar, Madhya Pradesh, Uttrarmnchal, Mahamaza portal even sold two-wheelers online. The system payment a proof method by delivering the goods only after the payment made by pay order or demand draft.

The Future of B2B e-commerce:

B2B e-commerce activities remained the largest sector of the electronic market. Many of the new B2B solutions had been made successful by creating a new

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offering that the traditional business has either ignored, or was scared to go into, being uncharted territory. There was almost no limit to where the future might take us in this direction. Certainly the businesses that have existed brand names and the ability to leverage their existing supply chains and relationships could have an advantage—but only if they make use of it.

Scope of the study:

The study was exploratory in nature. The adaptability of Indian Business and Industry was described in the study. Even though the data had been collected through the multistage sampling technique, the entire analysis of the problem was done only on general terms.

The first and second stages of the study was designed to help different companies in South India to understand how various factors affected B2B e-commerce. The endeavor was to highlight the attitudes and preparedness of Indian Industry to B2B e-commerce. The study helped marketing, purchase and E-Business managers to think and find out the total benefit received through such system. The Researcher focussed the study mainly based on the savings made on time and cost factors. The study started from the initiation made by the company for the implementation of B2B e-commerce covering intranet, extranet, ERP etc. The study also provided an opportunity to check the satisfaction level of traditional method of operation in marketing as well as purchase activities.

The third stage of the study was confined to a limited number of companies. The interviews with different levels of management experts in each and every department of the company helped the Researcher to understand the real benefit and
its implications in the market. The scope extended to the impediments and the failure for the implementation of B2B e-commerce in the respective companies.

**Objectives:**

Electronic commerce had included the handling of purchase transactions and funds transfers over computer networks. The application of E-commerce for efficiency and effectiveness benefited functional exploitation which was followed by Information Technology being leveraged for strategic advantage. From the literature survey it was found that adaptability of different applications of E-Business technology supporting business in terms of benefits to the organisation. Many organisations in India adopted ERP. So there had been a need for a comprehensive frame work for E-commerce with special reference to Business to Business E-commerce in an Indian context. The Research was an exploratory study to understand the different practices of E-commerce and proposed a frame work suitable in an Indian context. The other objectives were as follows:

1. To find out the preparedness of Indian business organisation to B2B e-commerce,

2. To assess the total percentage of time and cost savings in Marketing department,

3. To assess the total percentage of time and cost savings in Purchase department,

4. To analyse the level of satisfaction of marketing and purchase departments upon implementation of B2B e-commerce, and
5. To analyse the attitude of business executives to B2B e-commerce.

Methodology:

The study had been completed using both primary and secondary data to address the issues taken up for research. The secondary data were collected from published sources in India and abroad. Relevant secondary information had also been downloaded from appropriate web sites on the Internet.

This exploratory study was conducted using a multistage sampling technique among the South Indian companies whose annual turnover is Rs.100 crores and above irrespective of the nature of business. In the first stage of the study the Researcher collected a list of such companies registered in the states of Kerala, Karnataka, Tamilnadu and Andhra Pradesh. A few cities had been selected for conducting the survey based on the convenience of the Researcher in terms of distance, time, cost and density of the required type of companies. The cities selected were Cochin, Kollam, Palakkad, Chennai, Bangalore and Hyderabad.

In the second stage of the study, the Researcher contacted Senior Executives and fixed up appointments for face to face interviews. Out of the 50 companies contacted, only 47 companies were willing to provide information. Data had been collected only from those companies who have agreed for a face to face interview. The Researcher was able to collect data from thirteen companies in Bangalore, ten companies in Chennai, ten companies in Hyderabad, one company in Secunderabad, eight companies in Cochin, four companies in Palakkad and one company in Kollam. Data was collected by administering two questionnaires, one to senior marketing executive and other to senior purchase executive. Where the senior marketing and
purchase executives were not available, Researcher collected data from senior EDP/IT
managers. The questionnaires developed were intended to assess the level of
implementation of various e-business tools like intranet, extranet, customer
relationship management, supply chain management, enterprise resource planning,
etc. The survey also helped to get information about traditional method as well as
B2B e-commerce based business activities. Questionnaires were developed in such a
way so as to find out the total percentage of savings in time and cost in marketing as
well purchase departments due to the implementation of B2B e-commerce. The total
inventory cost was divided into ordering cost (printing cost, mailing cost, inward
processing cost, labor cost) carrying cost, and material cost. The total percentage of
time reduction in purchase enquiry, lead time, purchase order, hedging, labor cost,
shipment and information lead time were studied. The number of employee positions
rendered redundant after the B2B e-commerce implementation was checked during
the study. The survey also rated the speed of purchase decision, cost of procurement,
quantum of inventory held, qualities of product information in traditional method by
employing five point scale.

The survey ascertained the value of goods marketed through B2B e-
commerce. The reason for not using 100% B2B e-commerce for goods and services
were assessed. The Researcher tried to quantify the savings made in transaction cost
by finding out the invoicing cost, mailing cost, printing cost, efficient & effective
service cost, demonstration cost, sales cost and marketing cost. The time reduction
was calculated by shipping order, delivery of product & services, order of execution,
demonstration, cycle time, and labor cost. The speed of marketing decision, cost of
marketing and after sales service also were rated using a five point scale.
Most of the companies were in the infancy stage of implementation of necessary infrastructure for B2B e-commerce. Among the companies contacted only two companies were in the implementation stage. And the senior executives were unable to quantify the benefits derived from B2B e-commerce. The Researcher understood from experts that comparative analysis of benefits on B2B e-commerce vis-à-vis traditional method is difficult. Hence a comprehensive study on B2B e-commerce adaptation in business and industry is very difficult through the questionnaire method.

The third stage of the study investigated a contemporary phenomenon in B2B e-commerce in various organisation. The whole organisation is divided into two levels of operation viz front-end and back-end, for comprehensive analysis. There were so many factors which can influence the front-end and back-end operations. These factors determine the success of E-commerce in an organisation. To identify and measure the factors, the Researcher had to study the different types of B2B e-commerce portals like independent portals, consortia-based portals and private B2B portals adapted in advanced countries. The exploratory study indicated that seller oriented private portals would be suitable for the study. The Researcher had to typically answer ‘how’ and ‘why’ questions to understand the nature and complexity of the processes. With the rapid changes in Information Technology field, many new topics emerge every year for which valuable insights can be gained through the use of case research.
Case Selection Criteria:

Four cases were selected for this study based on high information intensity while considering the different types of B2B e-commerce. The companies selected for case study were from pharmaceutical, bicycle manufacturing, tractors manufacturing, and textile related companies. All these companies were selected based on the pioneering of the organisation in the private B2B e-commerce segment. The other factors for the company selection were the accessibility of the senior executives, the top management policy to encourage research finding in the upcoming area, the geographical reach, dominant position in their respective industries and superior supply-chain management capabilities. The three companies successfully implemented B2B e-commerce while the fourth one has withdrawn B2B e-commerce from the market. These companies repeatedly figured in Business and IT magazines for their overall achievement in Information Technology.

The first company selected for the study was Dr. Reddy's - Ltd., a large pharmaceutical company manufacturing and marketing pharmaceutical drugs. The company is headquartered at Hyderabad and is marketing its products nationally and internationally. The organisation had already deployed B2B e-commerce in their international as well as domestic operations. They also have successfully implemented ERP.

The second company selected for the study was Tractor and Farm Equipment Ltd. (TAFE), a leading tractor manufacturer in Chennai. They have dominance in North Indian operation. Most of their distribution in India is connected through B2B e-commerce. Since the type of products they serve need to have a direct accessibility,
the B2B e-commerce implementation was convenient and comfortable for the distributors.

The third company selected for the study was Coats India Ltd., a large threads manufacturing and exporting organisation in Bangalore. The major earnings for the company is from the export business. So the successful operation of International business, B2B e-commerce is playing a vital role in this company. The key resources for the study is the front-end operation.

The fourth company selected for the study was TI Cycles India Ltd., a leading bicycle manufacturing company in Chennai. The organisation had successfully implemented B2B e-commerce linking its major distributors in India enabling the stockists to have paperless communication. But this new initiative on B2B e-commerce was recently withdrawn due to various technical as well managerial reasons. This study throws light on the various factors considered in order to make B2B e-commerce model in India.

**Data Collection:**

Finding the factors for dimensions of the study is one of the key components in case research. There are different types of data collection methods in case research. The Researcher employed multiple data collection methods like written material such as newspaper clippings, formal reports, organisation charts, structured and unstructured interviews, direct observation and getting the insights into the technical operation of B2B e-commerce applications and physical systems used. The research focused on the different issues in E-commerce, attitudes employees and top management towards E-commerce, convenience of using E-commerce and benefits
received to the organisation. Hence interviews were appropriate strategy for data collection. The key information providers are e-commerce managers, top executives and key functional managers. Documents such as annual reports, departmental objectives, IT strategy and policy were verified. Internal and external reports on B2B e-commerce applications and their impact on the organisations were also collected.

**Data analysis and interpretation:**

The data analysis mainly involves the identification of factors and variables. These factors and variables include both qualitative and quantitative types. So the primary data were analysed and interpreted by applying appropriate tools using Statistical Package for Social Sciences (SPSS).

**Limitations of the Research:**

The present research is carried out in a time period when there were very few companies in forefront, pertaining to the adaptability of Indian Business and Industry to B2B e-commerce. And that too the back end operation is not fully automated. The application and its competitive benefit of E-commerce were just emerging. Another limitation to be noted that the factors influencing with key issues in each and every departments were changing because of the internal and external environment, which ultimately influences the adaptability.