Chapter 2

Literature Review

This study lies at the intersection of three basic aspects: application of e-business technology, technology adoption and supply chain & industrial channel management. This chapter presents a review of the existing literature on these three areas.

2.1 Electronic Business Concepts

Electronic Business, commonly referred to as “e-business” may be defined as the application of information and communication technologies (ICT) in support of all the activities of business. Commerce constitutes the exchange of products and services between businesses, groups and individuals and can be seen as one of the essential activities of any business. Electronic Commerce focuses on the use of ICT to enable the external activities and relationships of the business with individuals and other businesses (Beynon-Davies, 2004).

In practice, e-business is more than just e-commerce. While e-business refers to more strategic focus with an emphasis on the functions that occur using electronic capabilities, e-commerce is a subset of an overall e-business strategy. The e-business system is actually a combination of technologies, applications, processes, business strategies and practices, which are necessary to do business electronically (Roberts and Mackay, 1998).

The outstanding performance achieved by e-business in redesigning the business process and creating competitive advantages has generated interest among both the academic community and industry to understand the subject deeper by examining the underlying issues in detail (Sawhney and Zabin, 2001). One of the most prevalent issues that followed the introduction of e-business systems is the ability to establish a dynamic and flexible structure for buyer-supplier relationship which deterministically drives both parties toward strategic partnership and coordination (Roberts and Mackay, 1998).
The internet technology has sets of powerful business tools known as e-business technology that can be judiciously employed to improve coordination and communication to solve the problems and to do complex collaborative tasks faster and reliably (Dawar and Frost, 1999).

We are already beginning to see “e-business” being introduced into supply chain management – primarily as a collaborative use of Internet technology to enable integration of value and supply chains with key partners, by supporting business processes to improve speed, agility, real-time control and customer satisfaction (Jelassi and Leenen, 2003). This is done largely through the use of computer and communication networks to transfer information electronically. Porter (2001) argues that the main advantages to an organization is how e-business is deployed to benefit from the advantages of Internet technology, rather than whether, it is deployed.

There is consensus amongst academics and practitioners that the success of an e-business enabled supply chain depends on two major factors:

- Collaboration between partners (Norris et al., 2000) and integration of supply chains through linking information systems (Cigolini et al., 2004; Zank and Vokurka, 2003) which is also seen as a major source of competitive advantage;

- Information visibility (Kehoe and Boughton 1998; Garcia-Dastugue and Lambert 2003) including the ability to share accurate data and information from a wide range of operating areas across the supply network (Lancioni, et al., 2000).

There is however little empirical research into the type and degree of integration that is taking place and how this can be measured in order to evaluate the impact on information flows and relationships between and within supply network partners. (Tassabehji R. et al., 2007)

2.2 B2B internet marketing

Though e-commerce is on Business-to-Business (B2B), Business-to-Consumer (B2C) and Consumer-to-Business (C2B), it is increasingly realized that
B2B holds the most potential. In this section applications of various internet based technologies in a B2B context will be identified and discussed.

2.2.1 Electronic Value Chain

The value chain is a model that describes a sequence of value-adding activities of a single organization connecting its supply side (raw material, inbound logistics and production process) with its demand side (outbound logistics, marketing, sales) and includes supporting activities (firm infrastructure, human resource management, research and development, procurement) (Porter, 1985, 2001). This concept can be expanded into an electronic or virtual value chain to reflect the impact of emerging electronic technologies on businesses (Sakkas et al., 1999; Turner, 2000).

When an organization exchanges value in the form of money, goods, services and information with suppliers and / or customers over the internet, it undertakes two new ways of doing business. Firstly, it opens up the organization to include new partners, suppliers and customer and connects them through a universal electronic medium. Secondly, it requires the integration and alignment of technology, process and human performance with a continuously evolving strategic intent (Anonymous, 1999; Hoffman and Novak, 1996). Thus, an electronic value chain acts as a value-adding component of an e-business infrastructure to improve communication and coordination, and encourage the mutual sharing of inter-organizational resources and competencies (Cheng et al., 2001). The details of how this electronic value chain can add value are established in Figure 2.1. (Rao, 2002)
Fig 2.1: Details of an electronic value chain

<table>
<thead>
<tr>
<th>Firm Infrastructure</th>
<th>Intranet, database, web enabled legacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resource Management</td>
<td>Web enabled human resource management, change management</td>
</tr>
<tr>
<td>Technology Development</td>
<td>TCP IP network, systems integration, data definitions and metadata, database management system</td>
</tr>
<tr>
<td>Procurement</td>
<td>Web-enabled procurement</td>
</tr>
<tr>
<td>Inbound logistics Web-enabled supply-chain management</td>
<td></td>
</tr>
<tr>
<td>Operations</td>
<td>Web-enabled legacy systems, middleware, email, automated workflow intranet</td>
</tr>
<tr>
<td>Outbound logistics Web-enabled ERP applications, EDI enabled system extranet, internet website, emails</td>
<td></td>
</tr>
<tr>
<td>Marketing &amp; Sales</td>
<td>Web-enabled CRM applications, emails, e-commerce enabled internet websites, online communities, campaign management software, EDI systems extranet, data mining &amp; business intelligence applications</td>
</tr>
<tr>
<td>Service</td>
<td>Web-enabled CRM applications, emails, internet websites &amp; self service applications, feedback and continuous improvement</td>
</tr>
</tbody>
</table>

2.2.2 Electronic Data Interchange (EDI)

B2B e-commerce links suppliers and customers electronically so that individual firms can integrate their value chains in a virtual environment. The major difference between traditional EDI and B2B e-business is that EDI was conducted through private networks while B2B e-business uses the public internet (Robert and Mackay, 1998). While implementing EDI has high entry costs and implementation complexity tends to limit its use to large businesses (Vollmer, 2001; Waltner, 1997), the internet has the potential to extend EDI’s life by reducing cost barriers (Sakkas et al., 1999). That is, the internet greatly reduces the setup and maintenance costs, and is widely used by businesses so that firms can include the majority of their exchange partners in the virtual trading environment, whether large or small (Cairncross, 2000).

A study conducted to quantify the dollar benefits of improved information exchanges between Chrysler Corporation and its suppliers that result from using EDI, estimated the savings per vehicle to be about $60, which translates to annual savings of $220 million for the company (Mukhopadhyay et al., 1995).

Electronic Data Interchange Systems (EDI) is increasingly being used by business firms to improve operations and customer service. One of the major motivations for business organizations using EDI is to gain a strategic advantage in the marketplace. Although EDI has been implemented by many organizations, unfortunately not all have gained the same level of expected advantage or envisioned benefits. It has been found that companies that have adopted EDI technology have reaped higher level of benefits than other companies. (Rao et al., 1995).

As a result of the graphical web browser in 1993, e-business has spread from bilateral inter-organizational information systems to the internet. For example, XML (Extensible Markup Language) enables small to medium firms to incorporate EDI standards into web based transactions without the added expenses of implementing a traditional EDI infrastructure (Holzner, 1998). Thus, the adoption of e-commerce over the internet has progressed at a rate exceeding that of EDI. For example, Boeing went from having 70 suppliers utilizing its EDI platform over eighteen years, to 334 over the internet within twelve months (Seybold, 1999).
2.3 Supply Chain & Industrial Channel Management

Supply Chain Competitiveness (SCC) refers, in general way, to gain competitive advantages by one supply chain on the other (competitive supply chain / chains). Supply chain competitiveness can not be thought as a single unit, but it is an integrated effort of the components of supply chain as a whole (Lim et al., 2006 ; Brotherton, 2004). The major components of supply chain are suppliers, manufacturers and distributors.

A firm gains competitive advantage by performing strategically important activities more cheaply or better than its competitors. SCC comprised of competitiveness of all the supply chain components like suppliers, manufacturers and distributors (Gunasekaran et al., 2003 ; Felix et al., 2003).

Many researchers have tried to describe SCC and a wide range of strategies have been considered for the same. Mentzer (2004) argued that competitive advantage can be obtained not just through the products sold, but also through the way in which we manage the flows in a supply chain.

For companies to take competitive advantages at the global level, prime requirement is to have activities like co-ordination, collaboration, agility, supply chain flow cycles, supply chain synergy, flexibility at all levels, intra-organization and inter-organization information flows and all those activities which will create satisfaction to customers (Verma and Seth, 2010).

Industrial distributors face many challenges in an environment characterized by increasing globalization, competitiveness and consolidation. Central to the competitive edge of distributors’ achievement is ability to consistently provide added values, both to manufacturers and to customers. Distributors need to add value, communicate their added value, and protect their sources of value. Distributors are starting to take different projects with some focusing more on distributor / manufacturer relationship and others focusing more on the distributor / customer relationship. Some have embraced e-commerce while others are reemphasizing personalization through traditional sales force (Mudambi and Aggarwal, 2001).
Emergence of electronic commerce has created a new business paradigm, one that presents marketers with noteworthy opportunities and challenges. Perhaps the greatest impact is in the areas of channel management. The top issues for many business-to-business (B2B) firms today is channel conflict. Introduction of internet as additional channel into an already complex multi-channel distribution system creates serious conflicts from the perspective of the supplier firm. The recommended mechanisms by which a supplier can minimize the level of channel conflicts: dedicated channel management groups, documentations of channel strategies and super-ordinate goals (Webb, 2002).

In a B2B environment, supplier needs to understand the nature and circumstances of their customers because of the unique characteristics of the customer acting as an organization. To maintain customer loyalty to the supplier, a supplier may enhance all four aspects of relationship quality which are trust, commitment, satisfaction and service quality (Papassapa et al., 2007). As business customers purchase large volume of products and services, managing and maintaining loyal B2B customers can secure greater revenue.

Distributors can regain the channel initiative by combining high-quality fulfillment and customer service with online information and ordering. Customer expectations and capabilities will set the pace for the industry’s evolution, creating opportunities for savvy distributors to participate fully in the revolution (Fein, 2007).

Once tempted to bypass their channel partners and sell directly to customers online, manufacturers of many stripes are instead using the Internet to communicate better with their partners. According to experts, close coordination between product makers and outside sellers enabled by online systems, can help to bring products to market more quickly because there are fewer delays in distributing messaging and marketing collateral to partners. It can also help build partner loyalty, although this benefit is harder to measure. “If I can use the Internet to give the distributor more information about the product, services and maintenance schedules, and can let them manage their accounts online, 24 by 7, perhaps that distributor will be more loyal to me than they would be to a manufacturer using traditional sales methods.” (Joachim, 2000)
Large electrical distributors serving industrial, institutional and commercial accounts have had to meet customers' demand for online services and information. Most have well-defined online offerings. For industrial, institutional and commercial accounts, online buying occurs because these companies have standardized purchase orders using procurement systems based upon negotiated agreements. But electrical distributors don't see as many electrical contractors making web purchases and the challenge is to increase online contractor purchasing include: accuracy of data, ease of online product searches, the ability to receive pricing and a preference for personal interaction (Gordon, 2003).

Electronic commerce is not just about online ordering. It is about linking people and technology to solutions. The combined power of these platforms allows customers and suppliers constant and secure access to products, services and information, customized to their individual needs. Overcoming what appears to be a natural inbred fear of letting the competition knows too much appears to be a basic task before Internet electronic commerce providers if they are to enlist all parts of the distribution channel – supplier, distributor and OEM – in their effort to solidify the Web's position in the industry (Gunther, 1996).

For tangible goods, internet channels are estimated to reduce distribution cost by more than 25%. These savings can be attributed to a variety of factors: Transaction processing is eased, thereby reducing paperwork, human errors, and customer disputes; inventory costs may be reduced as intermediaries are bypassed; and some marketing function are shifted to the customer (Geyskens et al., 2002).

Considering the Internet as a channel, the retailing function it performs can be categorized into three broad groups: (1) non-store information channel; (2) non-store reservation channel with a traditional mail or courier service delivery; and (3) non-store purchasing and physical delivery channel. These three categories represent groupings of individual channel functions. Several studies confirm the acceptance by current Internet users of the information function. This is also illustrated by the tremendous success of sites offering information search engines. The second category does include the ordering channel function in addition to the information function.
The third category does go beyond the second category by also including physical delivery via the Internet of the product or service to the consumer.

Since information searching is the most popular reason why individuals go on Internet, it seems reasonable to expect that most consumers would have a more positive attitude toward adopting the Internet for the function of information searching than for ordering (Lin et al., 2006).

2.4 Technology Adoption

2.4.1 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is a widely studied model from social psychology which is concerned with determinants of consciously intended behaviours (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975).

![Diagram of Theory of Reasoned Action](image)

Fig 2.2 Theory of Reasoned Action

Source: Developed for this research

The figure at 2.2 is a schematic representation of the relationships among constructs in TRA. It is hypothesized by TRA that individual’s Behavioural Intention (BI) to perform a behavior is jointly determined by the individual’s Attitude towards performing a Behaviour (ATB) and Subjective Norm (SN) which is overall perception of what relevant others think the individual should do or should not do. TRA has been successfully applied to a large number of situations to predict performance of behavior and intentions.

2.4.2 Theory of Planned Behaviour (TPB)

Sheppard et al. (1988) pointed out two problems of this theory. First, one must differentiate behaviour from intention. Second, there is no provision in the
model for considering whether probability of failing to perform is due to one's behavior or due to one's intention. To deal with these problems, Ajzen (1985) extended the TRA by including another construct called perceived behavioural control, which predicts behavioural intentions and behavior. This extended model is called Theory of Planned Behaviour (TPB).

![Diagram of Theory of Planned Behaviour]

Fig 2.3 Theory of Planned Behaviour

Source: Developed for this research

TRA and TPB have many similarities. In both models, BI is a key factor. In prediction of actual behavior both theories assume that human beings are basically rational and make systematic use of information available to them when making decisions. While TRA assumes that the behavior being studied is under total volitional control of the performer (Madden et al., 1992), TPB expands boundary conditions to more goal-oriented actions.

Attitude toward Behaviour (ATB) is defined as “a person’s general feeling of favourableness or unfavourableness for that behavior” (Ajzen and Fishbein, 1980). Subjective Norm (SN) is defined as a person’s “perception that most people who are important to him/her think he/she should or should not perform the behavior in question” (Ajzen and Fishbein, 1980). Attitude toward behavior is a function of the product of one’s salient beliefs that performing the behavior will lead to certain outcomes, and an evaluation of the outcomes, i.e. rating of the desirability of the outcome.
Subjective Norm is a function of the product of one’s normative belief, that is, the “person’s belief that the salient referent thinks he / she should (or should not) perform the behavior” (Ajzen and Fishbein, 1980), and his / her motivation to comply with that referent. Thus, variables that are external to the model are assumed to influence intentions only to the extent that they affect either attitudes or subjective norms (Fishbein and Ajzen, 1975).

The Theory of Planned Behaviour (TPB) has been successfully applied to various situations in predicting the performance of behavior and intentions and is found to have better predictive power of behavior than TRA.

2.4.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM), introduced by Davis (1989), is an adaptation of the Theory of Reasoned Action (TRA) specifically tailored for modeling user acceptance of information systems. The goal of TAM is to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations. A key purpose of TAM is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes, and intentions. TAM was formulated in an attempt to achieve these goals by identifying a small number of fundamental variables suggested by previous research dealing with the cognitive and affective determinants of computer acceptance, and using TRA as a theoretical backdrop for modeling the theoretical relationships among these variables.

Fig 2.4: Technology Acceptance Model
As Figure 2.4 shows, TAM posits that two particular beliefs, perceived usefulness (PU) and perceived ease of use (PEOU), are the primary relevance for computer acceptance behaviour. PU is defined as the degree to which a prospective user believes that using a particular system would enhance his or her job performance. This follows from the definition of the word "useful": "capable of being used advantageously". Within an organizational context, people are generally reinforced for good performance by raises, promotions, bonuses, and other rewards (Pfeffer, 1982; Vroom, 1964). A system high in perceived usefulness, in turn, is one for which a user believes in the existence of a positive use-performance relationship.

PEOU refers to the degree to which a prospective user believes that using a particular system would be free of effort. This follows from the definition of "ease": "freedom from difficulty or great effort". Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible. All else being equal, an application perceived to be easier to use than another is more likely to be accepted by users. In January 2000, the Institute for Scientific Information’s Social Science Citation Index® listed 424 journal citations of the two journal articles that introduced TAM (i.e., Davis, 1989; Davis et al., 1989). TAM has become well established as a robust, powerful, and parsimonious model for predicting user acceptance.

2.4.4 Extension of Technology Acceptance Model (TAM2)

A study of the adoption of telemedicine technology by physician using TAM has found relatively low explanation power of TAM of attitude and intention (Hu et al., 1999). The researchers suggested that integration of TAM with other IT acceptance models or incorporating additional factors could help to improve the specificity and explanatory utility in a specific area.

IS researchers have begun to use TAM to examine the possible antecedents of Perceived Usefulness and Perceived Ease of Use toward microcomputer usage (Igbaria et al., 1995; Igbaria et al., 1995). However, one criticism of the current TAM studies is that there are very few investigations target at the study of the factors (i.e.,
the external variables) that affect the PU and PEOU (Gefen & Keil, 1998). In order to address this issue, Venkatesh and Davis (1996) used three experiments to investigate the determinants of Perceived Ease of Use. The results showed that general Computer Self-Efficacy significantly affects Perceived Ease of Use at all time, while Objective Usability of the system affects users' perception after they have direct experience with the system.

Furthermore, Venkatesh and Davis (2000) developed and tested a TAM2 model by including a number of determinants to Perceived Usefulness into the new model (see Figure 2.5). It is a theoretical extension of the Technology Acceptance Model that explains Perceived Usefulness and Usage Intentions in terms of social influence processes (Subjective Norm, Voluntariness, and Image) and cognitive instrumental processes (Job Relevance, Output Quality, Result Demonstrability and Perceived Ease of Use). Longitudinal data were collected from four different organizations that spanned a range of industries, organizational contexts, functional areas (ranging from small accounting service firm, medium-sized manufacturing firm, to the personal financial services department of a large financial services firm), and types of system being introduced. The results showed that all the above-mentioned social influences and cognitive instrumental processes have significantly influenced user acceptance of the systems.

![Technology Acceptance Model](image)

Fig 2.5 Extension of Technology Acceptance Model
Information Technology has generated profound effects on Supply Chain Management (SCM) activities related to problem solving, information sharing, and cost reduction initiatives. A study found that individual-level antecedents (technology trust, supply chain awareness, willingness to take risks, and resistance to change) and TAM antecedents (perceived usefulness and perceived ease of use) exhibited an effect on technology utilization (Lippert, 2008).

2.5 Adoption of Internet / E-Business

In a study regarding the factors affecting the acceptance of B2B Digital Marketplaces in Egypt (El-Hadary, 2001), it has been found that security could not be proved to have any influence on the adoption decisions. On the other hand, users’ experience, relative advantage and the low establishing cost of the system all had a positive influence on the adoption decision of B2B digital marketplaces.

Perceived Benefits was found to be a significant factor that influences the adoption decision of B2B Digital Marketplaces (El-Hadary, 2001). This seems to be in line with previous studies in the field of innovation adoption (Rogers, 1993), Internet Based Information Systems (Soliman, 2000) and the Internet (Poon and Swatman, 1999).

Information Richness was found to be a significant factor that influences the adoption decision of B2B Digital Marketplaces (El-Hadary, 2001). This finding is supported by the Information Richness theory (IRT) proposed by Draft and Lengel (1986) which proves that users would choose media higher in richness for tasks with higher equivolicty and ambiguity.

According to a study produced by Grant Thornton LLP

- Currently, 58 percent of manufacturers report that they use the internet to share information with customers and suppliers.
• Approximately one third use the Net to conduct online selling and quotations (39 percent), order processing and fulfillment (34 percent), and purchasing raw materials and components (32 percent).

• Manufacturers that plan to begin using the internet for supply chain functions in the next two years are most likely to use the channel for purchasing raw materials and components (45 percent), sharing information with customers and suppliers (45 percent), and order processing and fulfillment (42 percent).

The report states that manufacturers are not only considering how the Internet can be used to improve their supply chains, but also how other processes can speed the flow of product to the customer. One technique being used is supply chain optimization, which focuses on making tradeoffs among operational costs and inventory, delivery reliability and response time, and service to the customer to meet business objectives.

Use of technology enabling business-to-business (B2B) e-commerce was found to provide a potential source of performance improvement, but such improvement is shown to be more a function of the process by which strategy is formulated and organizational capability than of the technologies per se. The adoption and use of emerging technologies (such as the internet) are not subject to the same restrictions and impediments traditionally associated with established technologies. Therefore, organizations will find emerging internet-based technologies easier to implement and to use, but this will not necessarily mean that they will improve performance as a result. Performance will still be determined by effective strategy formulation, a clear understanding of the knowledge of the technologies, appropriate application and prudent change management (Power, 2005).

In recent years, skepticism about the value of e-business and information technology at the level of an individual firm has been renewed. In this sense, information system researchers face pressure to answer the question of whether and how e-business creates value. A study of a sample comprising 1010 Spanish firms showed that, Internet resources per se are not positively associated with e-business value. Furthermore, although Internet resources are not positively related to e-
business value, they are found to play a critical role in creating e-business capabilities. In addition, the results confirm that e-business capabilities are key drivers of e-business value (Soto-Acosta and Merofio-Cerdan, 2007).

Internet has little negative impact on relational bonding in the B2B context. That is technology-mediated transactions in financial services may not be detrimental to established relationships because trade efficiencies are more of a concern for business rather than the social establishments. Information technology – enabled connectivity can facilitate trade efficiency, therefore, the relationship. Moreover, impact of internet use on relational bonds of trust and dependence is moderated by length of B2B internet use (Rao, 2002).

Firms adopt the internet for different purposes, ranging from simple internet presence to using internet to transform business operations. A study of 566 firms in Singapore indicates that most firms are still exploring business use of Internet. A proactive business technology strategy was found to be positively associated with the level of internet adoption. Technology compatibility and top management support were found to have no significant relationship with the level of internet adoption. Further, the level of internet adoption had a significant positive relationship with competitive advantage (Teo and Plan, 2007).

With information sharing, business partners can strengthen relationship as well as their competitive position (Griffith and Palmer, 1999). In Internet business relationships amongst various partners, trust is very important (Jevons and Gabbott, 2000). Extranet partners have better relationships along the supply chain and with other partners (Vlosky et al., 2000).

Internet technology enhances the process of building a stronger relationship and knowledge base of the retailers’ business by the distributor (Bhat et al., 2001). Channel members become closer due to the communication efficiencies gained from the internet; internet users tend to communicate with suppliers and customers more frequently using traditional models than non-users (Boyle, 2001).

The internet and e-business technology provide opportunities for car makers to create integrated business practices to lower transaction costs across value chain,
increase company's responsiveness, decreasing inventories, increase rate and pace of introducing new models of cars and services and increase quality of customer services to enhance customer satisfaction (AT Kearney, 2000; Majumdar and Gupta, 2001).

E-business will not replace the traditional sales channel, but will make it more efficient, flexible and customer centric. E-business opens up opportunities to improve quality of service to customers, cut costs of procurement, reduce cycle times, increase the power of bargaining, increase the efficiency of communication and coordination, help to develop one-to-one relationships and create better customer relationship. However, introduction of e-Business process requires a lot of preparatory work and management commitments. (Majumdar and Gupta, 2001)

The internet can be used to provide a platform for partnership in all areas of the supply chain, whether it is procurement, purchasing, negotiation, coordination or just information exchange. The internet allows two-way communications, unlike EDI technology and therefore has much more impact on partner relations and partnerships (Williamson, 2007). Research by Lancioni, Smith & Oliva (2000) concluded that the use of Internet based inter-organisational information systems (IIOS), can improve supplier relations by improving communications and data flows between suppliers and businesses. Support for these conclusions is given by a number of researchers. Barua et al., (2001) suggested that the Internet provides opportunities for companies to develop relations with all business partners, suppliers as well as customers. The research was further developed by Zank and Vokurka (2003) who surveyed manufacturers, distributors and industrial customers and found that overall, members of the supply chain believed that e-commerce had a slightly positive impact on their relations with other supply chain partners. Hayes (2002) has shown that the use of the latest IT systems can aid supplier relations. For example, commitment, trust and communications can be enhanced and solidified by allowing the supplier/s access to real-time data which can also be manipulated, as required (Williamson, 2007).

Li and Williams (2001) concluded that implementing IIOS could assist in strengthening partnerships and improving cooperation as
It requires close working between companies which, in turn, helps them to build a closer relationship and encourage the sharing of information.

It removes many errors associated with manual systems.

The research found that the level of IIOS development has a beneficial impact on communication / information flows. All companies using Advanced IIOS found that they had a positive effect (55%) or a significant positive effect (45%) on communications. A retail manager illustrated the beneficial impact of IIOS on communications / information flows to his role. Weekly information from Head Office is fed back to himself to give information on store targets such as revenue, stock levels and shelf space usage (Williamson E, 2007).

Choi (1999) found that there is a positive relationship between information volumes, amount of sales and joint decision-making, leading to better electronic cooperation. Grecco (1989), Kanter (1994) and Kwon & Suh (2004) pointed to trust and communications / interaction as improving or even are necessary for effective working relationships with suppliers.

2.6 Chapter Summary

Technology Acceptance Model (TAM) introduced by Davis postulates that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are the primary relevance for computer acceptance behavior. Extension of Technology Acceptance Model (TAM2) explains that social influences and cognitive instrumental processes significantly influence user acceptance of the system.

Manufacturers are increasingly using internet to communicate better with their partners and improve customer service with online information, ordering and high quality fulfillment. Application of internet based technology may be easier to implement and use but this will not necessary mean that they will improve performance as a result. Performance will still be determined by effective strategy formulation, a clear understanding of the knowledge of technology, appropriate applications and prudent change management.
The internet technology provides opportunities to lower transaction costs across value chain, increase company's responsiveness, decrease inventories and increase quality of customer services to enhance customer satisfaction. E-business will not replace the traditional sales channel but will make it more efficient, flexible and customer centric.

Literature survey has indicated lack of relevant studies regarding adoption of internet in the Indian Low Voltage switchgear industry. Hence there is a need to understand the relevance of the findings of the literature review for the Indian low voltage switchgear industry. In order to address this gap, a case study of the Indian switchgear industry has been carried out in the next chapter.