CHAPTER VIII
FRAME WORK FOR E-COMMERCE

The research on the adaptability on E-commerce in an Indian context was in its early stage. The first objective of this research study was to find out the preparedness of Indian business organisation to B2B e-commerce. The study covered all the related activities in E-commerce.

E-commerce was an area of concern for many leading Indian organisations. There were clear evidence that organisations undergoing remarkable changes had implications on planning and implementing of E-commerce. E-commerce competence in the Information Technological era gained critical importance in today's business scenario. This was evident from the four cases, where the benefits that are expected out of E-commerce were at the highest level. As a result adapting E-commerce for competitive benefits were undertaken at the top management level.

E-commerce as seen from the four cases, was an integrated and rational process that impacted by the different factors involved. The methodological frame work in an Indian context involved the key factors of E-commerce adaptability was a necessity. The first section presented the preparation for planning, the second section presented the approaches and third Section presented the strategy formulation. The entire frame work was summarised in the last section. A discussion on the scope for organisations to move from one state to the other was also presented.

Preparation for E-commerce:

In the context of IT leveraged competitive advantage, the top management of the organisation needs to consider two basic requirements. The first requirement was the creation of collective IT vision among all the top management executives. The
understanding of the top management in the need for combining IT planning with business planning had a direct relationship with IT vision. IT vision was the very initial requirement, which motivated the top management to deploy resources, support new technologies. For the second requirement, the role of CEO’s and CIO’s were important to lead the process through brainstorming sessions and bringing consultants to expose the participants on the emerging role of E-Business in their business. This type of activities helped to develop the IT vision among the top management.

It was understood that the emerging competition made the organisation to exploit E-Business for competitive advantage. However, IT vision and formal business planning would lead to the implementation of E-commerce. IT vision needs to be developed based on IT planning. The IT vision considered IT planning as part of the corporate planning.

IT strategy and understanding for combining IT planning with business planning for a given planning period need to co-align with competitive strategies. Organisations needs to look at the business strategies mainly in the context of present and emerging technologies. The generic strategic competitive advantages, strategic alternatives and sub-strategies considered as part of the preparation for E-commerce. Hence the preparation for E-commerce made the organisation to initially create IT vision among the top management incentives and identification of generic and specific strategies that were aimed at achieving business objectives.

**Approaches:**

The IT department in all four company studied had been an internal factor which determined the scope for leveraging IT for higher level of benefits. However the IT departments were developed and maintained in different way due to the business and
organisational requirement. In most of the established companies, IT department was headed by CIO supported by number of IT professionals. If any of the E-commerce activities implemented in an organisation it was necessary that, the organisation needed number of IT professionals to monitor each and every activities carried out in different departments of an organisation. When any the company faced lack of internal professionals, the company needed to exploit the external experts.

In the first case study, the company had very strong infrastructure and operated through lean of IT professionals. Here the ERP implementation done through the outsourcing process. But the regular activities were monitored by the E-Business department. The second case study concluded the E-commerce activities were implemented by the initiative of a CIO and implemented through external agencies. The type of business does not assist to have a team of IT professionals externally. The third company also implemented ERP through external agencies whereas the company monitored all the E-commerce related activities by a team of professionals headed by the CIO of the company. The fourth company had a separate IT department headed by senior IT Manager. Here the ERP and E-commerce related activities were monitored through the team.

**Strategy Formulation:**

The organisation's IT strategy was the final step to implement and derive E-commerce benefits to the business process. This IT strategy was triggered by some key components in terms of applications and business process. It was therefore necessary to critically analyse and streamline the process. The complete E-commerce frame work was presented.
The primary objective was to develop a systematic procedure of internal activities of an organisation. Even if the internal activities were computerised, there was no ultimate result unless there was an integration of departmental activities. This integration of departmental activities made an organisation transparent. The whole employees of an organisation depended on the utility of the information for decision making. So the transparent system improved the productivity efficiently and effectively. If the organisation made its internal system transparent, it was better to provide this information to its business partners. The internal transparency disclosure may definitely encouraged the business partners to do more business with the same organisation. Here also the time savings was very much which could not be counted because of the changing nature of business. This internal transparency could be done only through an authorised Enterprise Resource Planning (ERP) Software. Once the ERP successfully implemented, the company could go for E-commerce activities. It could be B2B e-commerce, B2C e-commerce or B2E-commerce. The study covered both the B2B and B2E type activities available in an Indian context.

If the organisations waned to exploit either the domestic or foreign opportunities, the competitive requirements were high which related to market related applications. The IT strategy needs to be communicated to the key impact functions in order to create necessary preparedness for implementation. The employees needs to be trained well to accept the latest developments. The strategy used to be evolved through formal process using top management steering committees and communicated throughout the organisation. The scope of linkages was through impact and alignment of IT to business strategy and required participation of top management executives from both IT and other
functional streams. This lead to the formalisation of E-commerce strategy process and linking IT planning with business planning.

The B2E e-commerce emerged mostly from internal requirements. This may include applications for improving internal process efficiency and thereby improving the productivity of the employees using IT. This application was not derived from the competitive standpoint but because of the business models and planning approach. The ownership of all E-commerce related activities would be with CIO or IT Manager as the focus was on internal as well as external exploitation. There is not much difficulties with regard to the technologies available but adopting it to the company’s operation usually takes time. Once the B2E e-commerce implemented it was less time consuming and easy for the company to communicate with its employees all over the world.

The continued top management commitment for making the technology available as planned, budgets, time frame and ensuring rational behaviour of key personnel, helped the organisation to continue in competitive IT era. The time frame for E-commerce coincided with the business planning period. If there was not much competitive requirements, top management may not look at implementing the latest advancement in IT. The existing IT function would be maintained with more top management control. The outcome of E-commerce strategy were not measured in all major aspects as it revealed the gap between the probability and the actual achievement. The top Management commitment, the positive attitude of employees, budgets allocated, the benefits received through the implementations helped the organisation to move into the leaders in business.

The B2B e-commerce actually emerged from the external requirements. This may include for serving the business partner more fastly and cheaply and there by doing more
business. It also helped the company to expand its business in more locations. There were
number of technology solution providers in the country. It was not necessary for the
company to develop a tailor made package by its own employees. Here who ever may be
the partner and wherever may be the location could easily contact the company and gets
the latest information regarding his/her business.

The IT department had the business portfolios in the form of application
portfolios and hence cover the entire organisation. The huge and liberal allocation of
resources would be required during the plan period. The time frame for E-commerce
strategy would be the entire business planning period or may go beyond the one planning
period when both technology and applications were new to the organisation.

The B2B e-commerce strategy would be successful only when the two partners
actively involved in the business transactions. The organisation could not put pressure
any of its vendors to do the business through E-commerce portal. The vendor needed to
identify the benefits and initiate business. The company was not financially helping the
vendors to implement the latest technology. Instead of that, the company generated the
requirements of IT in long term.

The organisation during a particular planning period may find scope into another
model of E-commerce business fit. It could quickly convert through increased resource
commitment., because the company own the basic platform for E-commerce business. So
that it put the organisation into competitive fit, IT leadership and market share.

Analytical Framework:

A number of previous research on Information Technology revealed that
electronic market fulfilled a variety of functions and a number of factors influenced the
adoption of E-commerce. Based on the four case study and previous research, a frame work proposed here for analysing the adaptability of E-commerce. This frame work was based on a multistage impact.

Certain features of the web was used to enable E-commerce operations, which in turn had an impact on a set of transaction variables. The impact on transaction variables lead the improvements in performance which ultimately helped to improve the effectiveness of enterprise’s business transactions.

**Impact on E-commerce tasks:**

A web-based E-commerce system provided faster and more accurate order execution, real time and rich information support, low communication and coordination costs. From buying point of view, the use of a web-based system affects 4 major categories of E-commerce operations: Order execution, monitoring and control, communication and coordination and delivery schedule.

**Order Execution:**

E-Commerce system involved electronic document routing and information flow, thus reducing the time involved, transaction cost and labour costs entailed by manual processing. A web-based system automatically route product request for the necessary approvals and order placements with suppliers. So that it reduced the transaction cycle time and gets the materials to the user faster. As this system required only minimal data inputs, many former sources of errors were eliminated. Thus web-based system saved cycle time, errors and processing costs.
Monitoring and control:

Using E-commerce system, organisations achieved the twin objectives of responding effectively to user needs and leveraging their combined buying power. This provided a complete transparency between trading partners. Centralised control combined with the availability of an increased range of items on the electronic brochure motivated more users to order through web enabled system.

Communication and Co-ordination:

The major advantage of web-based system was faster and cheap communication thereby its ability to support increased co-ordination between the company and its business partners. When an order placed by the purchase department, the concerned personnel often used to communicate and exchange information with suppliers and users. The real-time information flow lead to faster resolution of problems and shortened order cycle time. The low communication costs of the web and the shorter time resulted in lower transaction costs.

Delivery Schedule:

The web-based system permitted either the company or the cargo operator to input the delivery information to the partner. So that the business partner could plan accordingly. If the partner wanted to have an urgent requirement, E-commerce provided the ability to inform to the company and get the details.
Impact on Performance Measures:

The impact on performance could be measured both qualitatively and quantitatively. This depended on the factors identified for measuring the performance. All the factors identified here were subjective in nature.

Procurement costs: One of the most visible performance impacts of web-based procurement was the lower total procurement cost. The reduction in transaction cycle time resulted from the use of web-based system reduced the labor time used in the process and the labor cost component of the transaction cost. Costs incurred in electronic processing and co-ordination were several magnitudes lower than those involved in manual processing and co-ordination. The lower rate of errors in an E-commerce system reduced the need for labour for error resolution, thereby reducing transaction costs. The less lead time for acquiring products, organisations could store less inventory and increased inventory turns, leading to lower inventory costs.

Quality of Procurement Process:

The quality of procurement process was an indicator of how well a system met the needs of an organisation. The proportion of order rejected or returned through the system was a measure of the process quality. It also showed the number of user complaints. An E-commerce system reduced the probability of errors. It also reduced the mismatch between the user needs and the delivered products.

User Satisfaction:

If the E-commerce system met effectively the business demand improved user satisfaction. Lower cycle time, faster communication and less errors lead to higher user satisfaction. Easy accessibility to the required information with minimum effort, faster
solution to complaints, and ease of use of the system interfere were some ways in which
user satisfaction could be improved by E-commerce system.

System Responsiveness:

System responsiveness referred to the ability of E-commerce system to respond to
the need of the user and the enterprise. If a business unit required a critical item to
prevent the idling of expensive production machinery, delay in locating or procuring the
item may cost more. In such instances, a responsive system helped to search internal and
external locations to find the item in the shortest time possible and the best way to get it
to the business unit.

Business Relationship:

The reduction in the transaction cost would lead to more explicit coordination,
which generated highly integrated inter-organisational relationship. Since there were
setup costs for establishing integrated buyer-supplier relationships, buyers seeking to
safeguard these relationship. Specific investments and achievement of economies of
scale in transacting preferred to develop partnerships with a small supplier group. The
information processing and communication networks were leveraged to satisfy
management needs in business transactions. E-commerce offered platforms to streamline
workflow and promote inter organisational collaboration. It could also be built for
collaborative supply chain management by coordinating demand forecasting and
production scheduling in real time. This mechanism allowed firms to transact with
preferred business partners to strengthen the business relationship.
WEB BASED TRANSACTION SYSTEM

Order of Execution

Monitoring & Control

Communication & Co-ordination

Delivery Schedule

Transaction Cycle Time

Transaction Cost

Errors in Communication

Transparency

Inventory Cost

Business Relationship

Total Procurement Cost

Process Quality

User Satisfaction

Responsiveness

Impact on Process

Impact on Performance

Figure VIII (1)
Framework for B2B E-commerce