CHAPTE R 1
INTRODUCTION

In this era of internationalization of the business, managers and researchers around the world agree that the business competitions and management practices are undergoing profound transformations due to the greater use of Information Technology, which enable and support communication and coordination across organizational boundaries.

Numerous information technology concepts such as electronic data interchange application services and value-added networks are supporting communication and coordination in the organizations unprecedentedly. Computer Based Information System (CBIS) is enabling the organizations to leverage their capability by creating information partnerships and electronic integration. This is enabling the creation of electronic markets and electronic hierarchy (Malone, Yates, Banjamin, 1987).

Therefore, the scope and importance of Information Systems is increasing and the organizations are concerned to find ways to get more business value by investing sizeable amount in technology due to emergence of knowledge based economy, it has been researched that approaches in managing organizations will be significantly different in future as it was in the last few decades, (Hugh M., 1997).

In the changing paradigms it has become imperative to increase the effectiveness of an organization, to get the best out of its resources and meet the goals for which the organization has been created, so that the organization can live up to the expectations in this era of
competition. Competition has increased among organizations because of the changes developing across the world due to globalization and liberalization of economies.

Computer Based Information Systems (CBIS) are the backbone of an organization. In other words, we can say that an organization’s Information System can be viewed as a federation of Information Systems- one information system for each major organizational function. These Information Systems provide most of the information necessary for management’s planning as well as for control purposes and thus the managers are dependent upon the Information Systems. Hence, there is a need for management’s involvement in the design and development of the Information Systems.

In certain type of organizations, one or more Information Systems may be highly developed than the others. This usually corresponds to the critical tasks in the industry. For example, high technology companies are likely to have extensive and sophisticated Information Systems for their research and development purpose.

Increasingly, the general managers are also becoming aware of the value of investment in Information Systems for promoting the business and for obtaining sizeable returns at reasonable costs. Many multinational companies have kept in place effective information management systems to promote their business across the world, to keep track of their business activities, to predict customer’s demands and develop products accordingly and to provide value based services to the customer. In many organizations, in India, there is a need to put Information System’s management in its place, in order to provide them the advantage over multinational companies and make them more competitive. In the global scenario, the
performance of an organization (Kotler, 2004) depends to a great extent on the performance of its Information Systems. There are a number of organizations who have gained competitive advantage due to the use of Computer Based Information Systems and yet there are others whose Information Systems are not satisfactory. It calls for a need to evaluate Information System’s function of the organization from time to time so that the Information Systems can be geared to serve an organization as strategic tool. The evaluation of Information System is also important from the point of view of the comparative analysis, which aims at viewing performance of an Information System of one organization in light of the other.

Strong Competition causes, new technologies to be employed for improving performance level of company’s resources. Performance is one of the important factors to evaluate achievement both at the industry and firm level. Its growth directs companies to increase their market share (Tabatabae, 2000). Organizational performance is based on the economics of the firms, at the most basic level.

Improving the organizational performance is fundamental for survival of companies in a very competitive market. The purpose is to make lasting improvements in performance. Performance, in terms of best methods we choose to reduce unemployment, enhance profits, reduce costs, and improve the quality of working life (Drucker, 2001). This clearly indicates the importance of performance as an indicator, as without performance objectives, a business does not have direction. Investigation of the organizational performance achieves the following results:-

i) The resource’s efficiency will be judged; and
ii) Evaluation of resource's management will be facilitated (Kazemi, 2003).

Measuring the organizational performance enables the companies to evaluate the factors that affect the organizational performance, on adding value such as CBIS, innovation etc (NPC productivity report, 2003). Current business activities are characterized by intense internationalization, rapid product innovation, increase in use of automation and significant organizational changes’ in response to new manufacturing and information technologies (Dirks, 2005).

The performance of the organizations includes multiple activities, that helps in establishing the goals of the organizations and also monitor their progress towards the target. It is used for making adjustments to accomplish the goals more efficiently and effectively. Organizational performance is what the business executives and the owners are usually concerned about. This is so because, even though the employees of the companies are hard-working, and are busy in doing their tasks, their companies are unable to achieve the planned results. Results are achieved more due to unexpected events and good fortune rather than the efforts made by the employees.

Computers and Information Systems are now present everywhere, both in public and private organizations. Over the past three decades an extensive literature has been developed on how managers can and should use Computer Based Information (CBI) to increase their personal effectiveness, and that of their organizations. In fact, some have suggested that organizational effectiveness can be measured by the extent to which managers are able to acquire the information, this reduces the uncertainty and ambiguity they perceive in their organizational
environments (Tushman and Nadler, 1978). But the value of computer-based Information Systems to managers remains unclear. Empirical research shows that managers typically use a variety of information sources, and while Computer Based Information System can play a role in decision-making, it often plays a small role (Jones and McLeod, 1986; Mintzberg, 1972, 1973). The research also shows that an important influence on the use of Computer Based Information System, or any other information media, lies on the managers' perception of its utility (Daft, Lengel and Trevino, 1987; Millman and Hartwick, 1987; Schenk, 1992).

However, for any business to be successful, functions must be defined and accomplished. It is important for an organization to develop strategies that are designed around the skills, these measures will enhance the performance of the organization. With the introduction of Organizational Performance Management Systems, this could be done. There are a number of means and ways that could increase the performance of an organization. These methods include regular recurring activities that are used to establish the goals of the organization. These activities are also required to monitor the progress of the organization towards the achievement of goals by making adjustments for achieving the desired targets more effectively and efficiently.

Computer Based Information System (CBIS) is one of the valuable resource for increasing the economic growth and customer’s satisfaction. It has a potential to cause an impact on the structure of organizations and improve the quality of organizational performance significantly. In the network era, electronic linkages within and among organizations are proliferating, and are altering the ways in which firms acquire factor inputs, convert them into products and services, and distribute the result to their customers (Hammer 2001; Straub and Watson
2001). This raises new questions about how Information Technology (IT) can be applied for improving organizational performance. For example, how do electronically connected trading partners have an impact on a firm’s ability to execute IT based strategies for improvement in efficiency and for competitive advantage? And how does the evolving competitive environment shapes IT business value? Though emerging studies are beginning to examine pieces of the network era IT business value puzzle (Chatfield and Yetton 2000; Mukhopadhyay and Kekre 2002), till date our knowledge remains under developed and unsystematic.

In the 1980s, CBIS was heralded as a key to competitive advantage (Porter and Millar, 1985). The authors concluded that CBIS has influenced competition in three ways; it has led to changes in industry’s structure and competition, it has been used to support the creation of new businesses; and companies using CBIS outperformed their competitors. Although, CBIS is a critical factor in providing a competitive advantage, this became less certain in the recent years, This is because CBIS poses a serious dilemma for top management. On one hand, continuing CBIS innovations have the potential of changing the competitive game for many organizations, on the other hand, the size of the CBIS investment puts increasing pressure on managers to assess its business value (Mukhopadhyay, et al., 1997).

For many years, there has been much discussion about whether the CBIS revolution was paying off in higher productivity. Studies in the 1980s found no positive relationship between CBIS investment and productivity, a situation referred to as the productivity paradox (Dedrick et al., 2003). Since then, decades of studies at the firm and country level have consistently shown that the impact of CBIS investment on productivity and economic growth
is significant and positive. **Albadvi and Keramati (2006)** also provided the satisfactory evidences to show that CBIS implementation increased the performance when supported by the rational complementary investment.

In the face of extreme competition and economic pressure, firms are changing their fundamental unit of analysis from the business function to the business processes. CBIS investments may make little direct impact on the overall performance of the firms or the economy until they are combined with complementary investments in business activities, human capital, and companies redesigning. The increase in the use of Information Systems has led to several changes in the workflow of both the private and public sectors. But Till date, the use of Information Systems by the private sector for achieving strategic advantages and gaining financial and business benefits far outweighs its public counterparts.

However, in the beginning of nineties, the conservative approach of public sector in using Information Systems began to change. The traditional Information Systems were being replaced by modern systems with improved and sophisticated software and hardware applications. Furthermore, with the advent of communication technologies such as the internet, intranet and extranet, the public sector environment has resulted in better collaboration among the intra and inter agencies. Apparently, the above developments have forced the government to re-evaluate and re-assess their system’s effectiveness.

**DeLone & Mc Lean (1992)** conducted a study which resulted in a proposed model of IS success. Ever since, this study has been considered very significant in contributing towards a universal model for looking at Information System’s performance. Several attempts have also
been made to validate their proposed model (Seddon & Kiew, 1994 and Rai et al., 2001). The model comprised of six dimensions, namely, system’s use, system’s quality, user’s satisfaction, information’s quality, individual impact and organizational impact.

LG, ONIDA, SAMSUNG and VIDEOCON are some of the powerful companies which have continued business activities independently. The positive impact of CBIS investment on overall growth of these companies has led to increase in their capacity to stay in the competitive consumer market. This research evaluates the impact of CBIS on LG, ONIDA, Samsung and Videocon from an end user’s perspective.

1.1 Problem Area Discussion

Measuring the effectiveness of Information System’s activity is a difficult task, as success in Information Systems (IS) becomes a key strategic issue. More recently, the continuous movement towards globalization has made information and communication technology one of the most important factors in achieving success, as well as in seeking new markets, improving quality and providing better and faster customer service. Many of the recent studies have shed some light on the impact of CBIS on economic growth, performance, employment, work organization and competitiveness.

Performance at the organizational level is affected by the level of competition, which leads other organizations to step up the development of their productive efforts. Increased performance, however, does not necessarily imply increased profitability. Competition may result in lower prices, thus eroding improvement in margins. The beneficiaries will then be consumers, who get more value added for the price paid (Dedrick et al., 2003).
CBIS has made rationalization possible in the organizations by minimizing the human involvement. These aspects of CBIS are labeled as *automational*. Increased access to information and enhanced means of accessing, analyzing, storing and communicating information can result other effects, in addition to pure rationalization. These aspects are defined as *informational*. Informational aspects empower the employees and enrich the quality of decisions and performances. *Transformational* is the third type of effect, which encompasses the changes observed in process of innovation and transformation. Another type of effect has been identified by Hitt & Brynjolfsson (1996), they have discussed the importance of the increased value perceived by consumers, as a result of technological improvements. This phenomenon is defined as *consumer surplus* (Mooney et al., 1996).

CBIS is considered as a productive resource to increase the economic growth, organizational performance and customer’s satisfaction. It has an effective role in enhancing the quality of communication services. CBIS can be gainful in the communication services when appropriate Information Systems are implemented in different parts of companies (Limayem, 2006). Moreover telecommunication service providers’ survival depends upon their ability to prepare for changes in customer’s needs, as well as to cope up with changes in regulation and technology (Fornell and Wernerfelt, 1987; Reichheld and Sasser, 1990).

Performance growth arises from the development of new work methods based on new technology and techniques. Consequently, when the new technology of CBIS was introduced in working life, increased organizational performance was expected. But, because computers were initially used in a situation where growth had been low and unemployment had been high i.e., in the mid-1970s, it was initially difficult to prove the positive effects of investments in
CBIS (Lundgren and Wiberg, 2001). Solow (1987) referred to this situation when he stated, "You can see the computer age everywhere but in the productivity statistics". This phenomenon was later defined as the productivity paradox (Horzella, 2005). Of late, however, firm-level studies, in the manufacturing and service sectors, have shown that there has been a significant positive contributions from CBIS investments toward organizational performance (Harker, 2000). The present study is focused on Indian and Foreign Multinational companies viz. Videocon International Ltd., Onida, Samsung and LG Electronics India Pvt. Ltd. respectively.

1.2 Purpose of the Research

Artisans and craftsmen have managed to keep their skills from becoming the property of everyone, thus protecting their livelihoods. They systematized the preparation of new specialists by enforcing a sequence of training leading from apprenticeship to the status of master.

Now a days there is a strong competition among companies, which not only employ information technology at the organizational level to improve the performance quality, but also use the newest technology to cover customers' needs.

There has been much discussion on whether or not the CBIS investment provides improvement in performance and business efficiency. Several studies at the industry level and at the firm level have contributed towards the differing understandings of this phenomenon. The purpose of this research is to investigate the Impact of Computer Based Information
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Systems investment on the organizational performance at LG, ONIDA, SAMSUNG and VIDEOCON.

1.2.1 Objectives of the Research

In this background the study shall meet the following objectives:

1. To identify the business activities in the organizations under study, by using value chain analysis (Porter et al, 1985) and to classify these activities into subgroups.

2. To evaluate the performance of Computer Based Information Systems in the organizations, under study.

3. To find out the perception of the company towards the Information Systems.

4. To establish relationship between the perception and the performance of the company with respect to Information Systems.

5. To compare the impact of Computer-Based Information Systems on the Indian and Foreign Multinational companies, and to identify similarities and differences (if any).

6. To suggest the strategies for bringing effectiveness in the Computer Based Information Systems.
1.3 Hypotheses

The critical questions within the scope of this research are:

H1: The performance of the company increases with the effectiveness in the Information Systems.

H2: There is a significant difference between the performance of Information Systems in the Indian and Foreign Multinational Companies.

H3: There is no significant difference between the perceived and actual performance of the organizations.

H4: a) Higher is the age group of the respondent higher is the level of expectation.

b) Higher is the age group of the respondent lower is the perceived level of actual performance.

1.4 Study Area

The study is focused on various Indian Multinational (Onida, Videocon International Ltd) and Foreign Multinational Companies (LG Electronics India Pvt. Ltd., Samsung). All these companies have established themselves and have good market share in consumer electronics and home appliances segment in and outside the country.

Committed to giving the consumers the best the world has to offer, all the companies have developed near zero wastage technology, which helps in reducing the manufacturing costs by optimizing material inputs.
Looking beyond India, Videocon is now a global player, acknowledged by the world. It is the first Indian company to win the prestigious CE approval for exporting its colour TV to Europe. Videocon is now entering the world market with its operations in the Middle East, Europe, Indonesia and South Africa. In India the location of the Head Office of VIDEOCON is at Aurangabad and Branch Offices in Delhi and Chandigarh.

LG electronics India believes in providing quality in all its endeavors and the quality of LG products and services are already the benchmark of excellence. For the purpose of this study the various locations that have been covered are:

LG’s Head Office is at Delhi and Branch Office at Chandigarh and Jammu. The Samsung Group is the world's largest conglomerate. The Samsung brand is the best known brand in the world and in 2005, Samsung overtook its Japanese rival Sony as the world's leading consumer electronics brand and became a part of the top twenty global brands overall. It is also the leader in many domestic industries, such as the financial, chemical, retail and entertainment industries. Samsung's strong influence in South Korea is visible throughout the nation, and is sometimes called the 'Republic of Samsung'.

ONIDA was started as MIRC Electronics in 1981 in Mumbai. The Company was set up as a sister concern of Monica Electronics Ltd., New Delhi (1975) which was manufacturing electronic watches and push-button dialers. Capitalizing on the Asian Games (1982 in New Delhi), MIRC started assembling television sets. Superior products and the combination of clever advertising and purposeful marketing soon ensured that ONIDA was a household name. ONIDA has a turnover of 800 crores, 3200 employees, 17 branches and a group brimming
with ideas. With such winning combinations, ONIDA looks forward to a bright future, one driven by technology and innovation.

1.5 Significance of the Research

1. Rapid process of information, producing low price CBIS equipments and employing automation systems at the organizational levels in recent years, has enabled the organizations to get an access and to update their information and knowledge easily and quickly.

2. Information Technologies are driving national development efforts worldwide and a number of countries in both developing and the developed world are exploring ways to facilitate their development process, through deployment and the exploitation of CBIS within their economies (Pourmirza, 2006).

Rational complementary investments increase the positive impact of CBIS (Albadvi and Keramati, 2006). Companies have implemented CBIS approach to shift their fundamental unit of analysis from the business function to the business process, and have achieved remarkable improvements in critical and contemporary measures of performance. By this approach they are tapping the real potential of CBIS investment, in their organizations. British company in telecommunication area is pioneer in implementing process reengineering. Thus this approach can be of immense help to LG, Onida, Samsung and Videocon in streamlining their business activities.
1.6 Research Methodology

Research in common parlance refers to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. Research has its special significance in solving various operational and planning problems of business and industry. A pilot test of the composite questionnaire was conducted. Some ambiguities have been removed and a general discussion of the responses confirmed the reasonability of the instrument for measuring Information Systems effectiveness.

The employees of the four organizations, out of which two organizations are Indian and two Foreign Multinational Organizations, have been chosen for the Purpose of the study. Batches of the questionnaires were delivered to an appointed liaison officer at each site with the request that they were to be distributed on a confidential basis to 110 employees to cover a variety of management levels and functional areas.

The usable responses have been subjected to a variety of univariate and multivariate statistical procedures in order to explore the construct validity and reliability of the instrument.

The study makes contribution to both theory and practice. Also, it has been conducted in two phases. In the first phase, the research problem has been confined to explore and describe the impact of CBIS investment on the organizational performance. A model has been used to assess the impact of CBIS on LG, Onida, Samsung and Videocon. Data has been collected from Management and planning Organization of LG, Onida, Samsung and Videocon.
Performance factors have been evaluated in the second phase of the research. Several meetings with experts of LG, Onida, Samsung and Videocon assisted us to prepare and localize the questionnaire. So, the practical information has been extracted through questionnaire data collection from head offices of LG, Onida, Samsung and Videocon. Briefly in this study, the following steps have been taken:-

i) Review of the literature has been carried out in order to understand the relationship between CBIS and organizational performance, from the point of view of an end user perspective.

ii) Study of different methods to find an appropriate model for analyzing the impact of CBIS on organization’s performance.

iii) Model selection and modification based on the context characteristics.

iv) Field work done by gathering financial and economic data and distributing the questionnaires through the head offices of LG, Onida, Samsung and Videocon, to evaluate impact on the performance.

v) Data Analysis and Data Interpretations.

The research purpose of this study is initially *exploratory* since the researcher will conduct *exploratory* research to gain a deeper understanding, to answer the research questions. The study is also *descriptive* as data is collected and analyzed. Finally, the researcher will explain while answering research questions, so the study will also be *explanatory*. 
1.6.1 Research Approach

In this study, a *Quantitative* approach has been found most suitable. The study is not carried out with the purpose of making any generalizations but to gain a deeper understanding of the area researched. In order to collect deep and rich data, researcher has used qualitative methods.

*Quantitative* research is the approach adopted in several different types of social science research studies. There are some common characteristics in these types of researches that give the concept of quantitative research a significant meaning; by studying people’s interpretations and their behavioral patterns (*Denscombe, 1998*). Quantitative research can be a part of the information collection and thereby has a value by itself and it can also be used as a base for building theory. These are always the result of the researcher’s interpretation. Quantitative research is based on meanings expressed through words (*Saunders et al., 2003*).

1.6.2 Developing the Instrument

Common sense should dictate in large part the design of survey instruments. Once a decision about the appropriate survey procedure has been made, it should dominate the issue of question formulation. It is a truism that anybody can develop a questionnaire. It is, however, a completely different issue whether such a questionnaire will generate the information that the developer and analyst are interested in obtaining, and that too is suitable for answering the survey objectives. This question needs to be asked with respect to the quality, as well as with respect to the quantity (nonresponse issue), of the data. Several attempts have been made to measure “user information satisfaction” as a surrogate for the overall effectiveness of
Information Systems in the organization. Ives, Olson and Baroudi review and critically analyze some of these studies and argue convincingly for the adoption of the instrument designed by Bailey and Pearson on the basis of reliability, content, predictive and construct validity. They also test and recommend adoption of a shorter and enhanced version.

Alloway and Quilard developed and applied a similar instrument, consisting of 26 items. Where Bailey and Pearson used six scales for each item, they called for responses regarding just “performance” and “importance” in each case.

The instrument used in this research consists of 34 items, 24 of which derive from Pearson, 10 from Alloway. The composite instrument is designed to meet the general need for assessing Information Systems’s effectiveness, to enable a specific test of the hypotheses stated and to reflect our perception that certain issues such as database technology, steering committees and strategic planning must be addressed in today’s Information Systems arena. Two scales of performance and importance are measured for each item.

1.6.3 Data Collection

The information needed for the purpose of collecting data is by means of primary & secondary sources. The collection of empirical data to go with the purpose of this study, it is important to understand the user’s perceptions (Erikson & Wiedersheim, 2001). According to Denscombe (2000) there are two types of data that can be collected; primary and secondary. Further, Denscombe states that the main sources for collecting data are questionnaires, interviews, observations and documentation. Yin (2003) also adds archival records, the source used to collect data and divides the observations into two categories; direct and participant’s observations.
1.6.4 Primary Data

Primary data is the data which is collected afresh for the first time. Such data are published by authorities who themselves are responsible for the collection.

Methods adopted for collecting primary data that have been used for the present study are:

   a) Interviews; and

   b) Questionnaire.

1.6.5 Secondary Data

The data which has already been collected by some other agency and which has been published in various magazines, journals, annual reports of the companies.

Secondary data has been collected from:

   a) Company brochures;

   b) Magazines and Journals; and

   c) Articles from newspapers and Journals.

1.6.6 Data Sources

Data necessary for the study has been collected from employees of the companies.
1.6.7 Sampling Plan

Sampling Unit: Employees of LG, Samsung, Onida and Videocon from different offices were selected as a sample unit.

The type of documentations used in this study are books, magazines and web-pages to find out how the organizations’ position themselves. The reason for using documentation as a secondary data is its cost effectiveness and reliability Denscombe (2000).

1.6.8 Sample Selection

The next step is to find relevant samples for collection of the empirical data. According to Yin (2003) a single study has the opportunity to include subunits of analysis and this can lead to better insight of the focus group’s values and attitudes.

The present study is conducted for studying the impact of CBIS on organizational performance. A total number of 410 respondents from various organizations have been selected as sample.

1.6.9 Choice of Respondents

In order to collect the data needed employees of LG, Samsung, Onida and Videocon have been chosen from different cities i.e., Delhi, Chandigarh and Bangalore.

1.6.10 Validity and Reliability

The method of factor analysis using varimax rotation was applied to the “performance” and
“importance” parts of the questionnaire. Reason for choosing this technique includes its value as an objective and powerful procedure for examining the constructs underlying the chosen instrument, its reproducibility, wide range of attributes typically used in evaluating the Information Systems’ effectiveness and the appeal for determining a small set of independent factors for subsequent data reduction and substantive analysis.

Applying the method to the “importance”, responses have resulted in seven factors which accounted for 55% of the overall variance. The constructs implied by the factors do not make immediate “sense”. In contrast factor analysis of the “performance” has yielded five factors which accounted for 62% of the total variance. A cut-off level just below the conventional 0.50 has been chosen since this allowed the unambiguous assignment of all items to one or other of the first five factors. Inspection of the items composing each other and the extensive study of the relevant literature has led to the generic factor names.

While the grouping indicated by the factor analysis on performance responses is very appealing, it was nevertheless considered necessary to perform a check using so-called complete linkage method, to hierarchical cluster analysis. This approach imposes severe conditions on the formation of clusters of similar items and as it turned out, provided valuable confirmation of the factor analysis. It became apparent that the “importance” clusters were indistinct and different from the factors derived. Also, there was considerable similarity between the clusters and factors derived for “performance” measures.
1.7 Chapter Scheme

1. Introduction

2. Literature Review

3. Organization Profile


1.8 Chapter Summery

This chapter is the introduction to my topic impact of CBIS on organizational performance. How the improvement in organizational performance takes place with use of information technology? CBIS systems are the back bone of the Organizations, because the performance of the organizations depends upon the operational effectiveness of its Information Systems. CBIS increases the economic growth and customer’s satisfaction. It also influences changes in the industrial structure, competition and creation of new business. CBIS has positive impact on the overall growth of the companies as it has minimized human involvement. CBIS has opened the field of research to investigate its impact on organizational performance. Demerits of CBIS have also been considered. The chapter also outlines the research strategy with due emphasis on the purpose, objectives, hypothesis, study area, significance, research methodology and research approach.
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