CHAPTER 3

SYSTEM SATISFACTION

3.1 COMPUTERISATION OF INDUSTRY AND SYSTEM SATISFACTION:

In India, the computers being new to the industry, none of the imderical study has been in circulation which measures the user's Satisfaction with the computers or changes in the Job Satisfaction as a result of introduction of computers. However, many foreign studies (Aldag and Brief 1978, Brown 1976, Campbell 1976, Dyer and Theriault 1976, Ivancevich 1976, Locke 1969) are available which quote different criterion on the basis of which the users' satisfaction with the computer system refered to as System Satisfaction should/can be measured (not in the industry context). The objective here has been to study the satisfaction of the users with the computer system. The components of such satisfaction shall be delienated as available in the literature and satisfaction assessed for the different strata of employees using the computers.

SATISFACTION

Satisfaction is a perception and an attitude. To
paraphrase Locke's (1969) writing, satisfaction and dissatisfaction are seen to be "a function of the perceived relationship between what one want... and what one perceive it as offering". In other words, satisfaction is the difference between what a person thinks he should receive and what he feels he actually receive.

The success and effectiveness of a computerised system can be reflected in the satisfaction of its users and providers. The overall satisfaction with a complex entity such as a computer, is considered to be composed of many facets. Based on review of literature (Schewe 1972 & Godwin 1981) System Satisfaction is advocated to be composed of:

1. Satisfaction with computer capabilities
2. Satisfaction with user education
3. Satisfaction with system atmosphere
4. Satisfaction with system refinements
5. Satisfaction with exogeneous variables

Users once familiar with the computer system, evaluate the computer capabilities in terms of response time, completeness of information, formating of information, up-to-date information (information currency) and so on. But, satisfaction from the computer capabilities is only one of the contributors to the overall system satisfaction of the
users. Other important related things are computers and corporate training programmes, satisfaction about the environment surrounding, system usage, such as level of problem solving sophistication in the industry, and satisfaction about other individuals significant to computer usage, such as computer personnel and work colleagues.

Situational constraints may intervene to effect the overall system satisfaction. For example, the user may be restrained by perceived unreliable data, poor top management support, and/or poorly trained computer personnel. These constraints named as exogeneous variables, reflect satisfaction about objects other than the information systems, about people, environment or education. It is thus combined satisfaction on all these five counts equal system satisfaction. Following discussion provide the details about the individual incorporant of the five components of system satisfaction.

SATISFACTION WITH COMPUTER CAPABILITY:

CP-1 Depth of information, the level of disaggregation in the data base.
CP-2 Width of information, the number of categories of information in the data base.
CP-3 Analytical sophistication, the system capability to analyse data.
CP-4 Computer authority, the information systems ability to actually make decisions for the user.
CP-5 Access time delay, the time between the desire to gain access to the computer and the beginning of the use of the system.
CP-6 Response time, the time lapse between initiation of a
request and receipt of the information.
CP-7 Completeness of data output, the ability of the system to retrieve all the information requested without leaving out any parts.
CP-8 Information overload, the amount of unnecessary and irrelevant information given to the user.
CP-9 Information windfall, the amount of additional but beneficial information unrequested but given to the user.
CP-10 Information currency, the degree to which the information in the data banks is up-to-date.
CP-11 Reliability of output, the accuracy of the output.
CP-12 Machine memory, the amount of trouble or effort to reproduce or reobtain any information once it has been generated by the information system.
CP-13 The overall formatting and readability of information contained in the reports.
CP-14 The capability of the system to generate special and adhoc reports with minimum delay.
CP-15 The responsiveness of the system to frequent changes in information requirements, such as addition of new data elements or the changes of the definition of existing data element or a need for different reports.
CP-16 The security measures related to the system.

SATISFACTION WITH USER EDUCATION:

UE-1 Technical competence of the system personnel, the ability of the system design and maintenance people to perform their job.
UE-2 Social compatibility of the system user and system personnel, how well the user gets along with the system personnel.
UE-3 System personnel professionalism, how up-to-date the system designers keep themselves.
UE-4 Training programme, the quality of the training programme.
UE-5 Computer knowledge, the user's level of understanding of computers and computer programming.

SATISFACTION WITH ATMOSPHERE:

A-1 Top management support, the top management's level of commitment to the design and implementation of computerisation.
A-2 Organisation location of computer, the level of the system in the organisational structure (indicates the corporate prestige of the system).
A-3 Corporate sophistication, the degree to which the
company uses advanced techniques to solve the problems.

A-4 Corporate spirit, the level of enthusiasm in the company.
A-5 Acceptance of change, how well the company adapts to change.
A-6 Corporate creative license, the company's encouragement of creativity.

SATISFACTION WITH REFINEMENTS:

R-1 Mental search efforts, the amount of mental energy expended in using the computer.
R-2 Physical movement, the amount of distance between users work location and the place where he interacts with the system.
R-3 Interface with special codes, the need for the user knowledge of special codes and/or machine languages to use the computers.
R-4 Output complexity, the difficulty in interpreting the output.
R-5 Human interaction, the number of people you must interact with to use the system.

OTHER EXOGENEOUS VARIABLES:

EV-1 Age, the age of the system user.
EV-2 Years of education, number of years of formal education of the user.
EV-3 Educational background, educational specialization of user.
EV-4 Time on job, how long user has worked at the present job.
EV-5 Time with organisation, how long user has worked with the organisation.
EV-6 Involvement in system development, the extent to which the user assisted in the design and implementation of the system.
EV-7 Respect for the computer, recognition of the computer capabilities.
EV-8 Fear of the computer, the effect of the computer on the loss of job.
EV-9 Effect on job content, the amount of alteration in the nature of the user's job due to computer.
EV-10 Conversion effort, the effort and difficulty in changing to a computer system from a manual system.

Usage of computers comes in two forms- routinely generated reports and personally initiated requests for
additional information. It was hypothesized originally by Schewe (1972) in his reported study that system users operating with information systems low on the sophistication continuum (batch processing) will find considerably different components more important in influencing their system satisfaction, and hence their usage of the system, than users employing highly sophisticated information systems (interactive systems) specifically, a hierarchy may be at work on information system satisfaction. Also, with the experience over computer system increasing, the importance attached with computer capabilities keep on changing and hence the system satisfaction.

At extreme low levels of information technology, the major concern lies in the development of the data base and programmes to successfully retrieve data for use by managers. At these levels, the system attitude and usage and satisfaction will be a function of system’s capability to store and retrieve information. When a system is perceived at a higher level of technical capability by the system user, user education is more important than system capability in affecting a favourable predisposition towards the computer. User education refers to the user’s knowledge of how to use the system, of the capabilities as well as limitations of the system, and of the effect of the computers on the user’s job efficiency and decision making effectiveness. Infact, this hierarchy implies that the users
education is not very important if a very poor data base and poor retrieval programmes exist within the system. As the user becomes sufficiently educated about the computer, the atmosphere or environment within the organisation becomes a more important motivator of attitudes and system usage and higher system satisfaction than the two lower levels in the hierarchy. At this level, top management support, the organisation's acceptance of the change, and a feeling of corporate sophistication will indicate more to indicate use of the computer than computer capability and user education. Finally, as a sufficient degree of corporate atmosphere is reached, the system user turns to subtle refinements that make the system easier to use. Less physical and mental effort by the user will lead to greater user satisfaction and hence, system usage.

Similarly, each of the individual component varies with respect to so many factors as system performances, user attitudes, user perceptions and so on. Attempt has been made here to study in detail, the system satisfaction and correlate it with other variables of interest.

3.2 SATISFACTION WITH WORK STATION ENVIRONMENT AND WORK EQUIPMENT:

Fallik (1988) argued that in order to meet the deadlines, the planners often do away with the compatible work station environment and ergonomically designed work
equipment. It was proved that whereas the system satisfaction with the work station environment may act as catalyst to increased system satisfaction, the dissatisfaction with the work equipment results in health hazards in the form of fatigue, headaches, neckaches, eye strain etc. He delineated clearly the factors, important for consideration for an organisation using computers for its general operations. Besides, the general ergonomically designed computerised equipment characteristics were pointed. The satisfaction with the work station environment and the work equipment for the employees of the industry has been attempted to in this dissertation.