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CHAPTER : II

CONCEPTUAL MODEL OF THE PRESENT STUDY

2.1 Decision-Making and Research

Decision-making is very important aspect of the management of education systems. The process of the decision-making is management of the structure and functioning of decision groups so that these decision-making process become congruent with changes in the nature of the decision-making task undertaken at a particular point of time within the system. A decision-making design is therefore, a very complex problem. The decision process requires that a single strategy must be chosen from a number of alternatives which may begin to structure our thinking process. All relevant elements must be a part of the decision process. So it is desired to determine a dcision-making method that will be acceptable to all the parties participating in the decision process. It is one of the most important areas for research specially for education systems. In India, very few researches have been done in the area of decision-making considering the education systems. Abroad, there are researches in decision-making in relation to : (i) Collective bargaining; (ii) Decisional participation; (iii) Power and Influence of decision-making; (iv) Models of decision-making; (v) Use of computers and Simulation; (vi) Miscellaneous Researches. Here brief review of these researches has been given.

2.1.1 Collective Bargaining

At present the traditional faculty mechanisms for decision-making are as widely practised as they were before collective bargaining came to the campus. Gains in faculty influence in decision-making are not restricted to a few but are spread among a range of faculty members. The experience of faculty unions does not show that collective bargaining produces such changes in the working conditions of faculty as to make them no longer professional (Jimenez, 1980). Researches done by Thorpe (1975), Ramsay (1979), Hutto (1980), Dunbar (1976) support the favourable attitude of faculty towards collective bargaining. McFadden (1977) examined the perceived effects of collective bargaining on the distribution of power within community college decision-making. Findings of this study suggested that collective bargaining would significantly alter the balance of power within community college decision-making areas. The contention that collective bargaining would faster the existence and the willingness to share control in decision-making was supported by the data in this study. In some cases locus of decision-making for faculty work-load had shifted from strong administrative domination toward co-equal involvement. Faculty experience with collective bargaining has apparently been instrumental in stimulating sharply increased concerned for even more participation in institution governance (Hudson, 1974). Few researches have been done on the impact of collective bargaining in higher education systems. Bernier (1974), McDonald (1976), Napolitano (1978), Tumminia (1979), Bidwell (1980) have found that collective bargaining has got significant effect on the management of colleges. Depaoli (1974) determined the

difference between working conditions for community college instructors operating with a traditional contract. There was no significant difference between the minimum mean salaries for the two types of colleges. Collective bargaining colleges and traditional colleges demonstrated no significant differences for the following:

(a) instructor's working conditions; (ii) leave provisions; (c) general contract provisions; (d) promotion regulation. There may be difference of views about collective bargaining between faculty and administrators. The results of the study done by Michaelis (1980) indicated that faculty attitudes towards both bargaining and governance issues differ markedly from the attitudes of administrators and trustees.

2.1.2 Decisional Participation

The individuals differ widely in the importance they assign to their own membership and to the organization itself. More is clearly related to the possibility of increasing participation as a way of developing personal commitment to the organization. Phillips (1974) determined the differences that exist between the actual and desired levels of participation perceived by community college middle management personnel with respect to selected personnel management functions. A highly significant difference was found between the middle managers' perception of their actual and desired levels of participation. In some of the researches, there was specific difference in views expressed pertaining to the existing degree of participation in the decision-making among

faculty members (Renegar, 1975; Hessenflow, 1975). Research work was also done to examine the relationship between decisional participation and job satisfaction of deans of education (Hauser, 1979). The deans of education were found to be very satisfied with their job. Shelton (1974) identified the perceived faculty administrative governance relationships from clarification of perceived policy relations in the areas of administrative leadership, decision-making, faculty control, and professionalism. Statistical difference supported the contention faculty and administrator. Administrators were more satisfied with existing policy arrangements in all but a few of the governance issues. Nehr (1975) viewed university governance as a set of political processes, and focuses on entrance of faculty into the committee structure of the University of Minnesota Senate as one of those processes. Akinola (1978) found inadequate involvement of faculty members in all areas of governance decisions. University Senate dealt with major governance decisions in Academic programmes through its various committees. Khalaf (1980) analyzed faculty perceptions of the performance of current institutional governing boards in academic affairs, and the alternative patterns of faculty participation in governance in Texas Senior Colleges and Universities. It was concluded that respondents have negative perceptions about their boards. Board faculty relations are expected to deteriorate, and faculty tension to increase, if faculty are not allowed to share in the authority for academic affairs. Danse (1977) identified the difference in perceived extent of bureaucracy between Faculty of unionized and

non-unionized institutions of higher education. There was no significant difference between the two groups with respect to perceived extent of bureaucracy. Faculty of non-unionized institution were significantly more satisfied with their participation in decision-making than faculty of unionized institution. A highly significant negative correlation was found to exist between perceived extent of bureaucracy and extent of satisfaction with participation in decision-making.

2.1.3 Power and Influence on Decision-Making

Rugen (1977) examined and compared the relative amounts of latent power possessed by faculty associations and administrative officers as perceived by faculty members at community colleges in New York State. The faculty association in one institution was perceived to posses the largest amounts of latent power. In other institutions faculty association possessed small amount of latent power because they have been unable to gain power through the collective bargaining process, or because faculties have used other means to gain power such as the faculty senate.

Stonewater (1978) conducted a study of perceptions of power and influence in university decision-making. The comparison between faculty and administrators revealed that on several key issues, administrator perceived faculty as having more influence than faculty themselves perceived. Regarding preferred versus perceived influence, their was more difference between the two for faculty than for administrators on virtually all comparison.

Dykes (1978) examined the factors which influence faculty participation in a complex organization innovation at the University of Wisconsin. It was found that environmental uncertainty and organizational pressure for change as measured by performance served as a primary motivating force for participation. Lyons and Achilles (1976) studied the influence of mood of educational administrators on professional decisions. Result of this study suggest that practising and certified educational administrator were able to view educational tasks professionally and to exclude from their decisions personal "moods to arrive at professional" decision.

Admire (1978) analysed the role of community college division chairman in administrative decision-making. It was found that administrative decision-making role of chairman was changing as evidenced by more administrative descript titles, more time devoted to administrative duties, collective bargaining and the influence of larger divisional unity. Decision-making was most evident in the budgeting and staffing with limited involvement in planning. Decision-making was affected by such factors as size of college and decisional autonomy.

Erickson (1980) determined the effect of power held by academic departments on decision-making process. The relationship of decision-making process to total departmental power, total faculty power to total student power, and to the distribution of power were examined. Some significant relationships were found.

Floyd (1980) determined the relative importance of selected influences (politics, legal limitations, enrollment factors, economic measures, and administrative values) on the decision-making of departmental/division heads. Legal limitations were perceived as most important in the area of personnel (faculty/staff) services, second in importance in the area of student personnel services, third in importance in the area of administrative and managerial functions and least important in the area of curriculum and instruction.

2.1.4 Models of Decision-Making

Houghten and Gear (1974) examined the revolutionary concept of recurrent education in detail and developed a mathematical programming model. Parks, Siemens and Nicolai (1976) developed a model using cause representation of a decision-making task with a fixed number of alternatives. This model requires only the specifications of relevant input stimuli and a sample of stimuli-response relationship in order to develop a representation of the task. Mintzberg, Raisinghani and Theoret (1976) proposed a general model to describe interrelationships among 12 elements (3 central phases; 3 sets of supporting routines; and 6 sets of dynamic factors).

Richard, Taylor and Thomson (1976) developed a five staged model for decision-making which incorporated a faculty opinion survey permitted almost universal expressions of opinion and preference on a complex administrative decision. Pearlson (1977) worked for increasing the utilization of systems-based decision-making by college and university administrators. Case studies

were suggested to furnish the raw material for the application of the system-based model to problem situation requiring administrative decision-making. Connell (1977) seeked to articulate a specific frame of reference with respect to normative social systems by integrating the concepts of decision-making and change in a way that present a dynamic model for leadership in an educational setting.

Cooper (1977) suggested resource management model which is a single period linear goal programming model. It was proposed that in order to improve performance by the implementation of multiperiod models, the systems approach should be used to study the decision process. Champman (1979) applied Graham Allison's Governmental (Bureaucratic) Political Model of organizational decision-making. This model would be useful for persons at any level of an educational hierarchy for viewing the politics of discovery, the politics of the issues and the politics of choice associated with decision. Dufty and Williams (1979) tested the contingency model of managerial leadership on the basis of decision-making procedures and managerial styles of department head in an academic institution as compared with those reported in other studies of managers in private enterprises and public bureaucracies.

2.1.5 Use of Computers and Simulation

Ferguson (1969) developed and conducted experiment with a time-sharing computer model. By modeling the dynamics of a job shops, the authors were able to both to make use of and to

evaluate academic research in job shop scheduling. The authors have devised a specific appointment of the problem environment which permits uses of their information system to explore the effects of various combinations of heuristics and programmed decision rules. The response of over 300 managers and academicians who have participated in the experiment, provides evidence of the practicality of such an approach to multi dimensional time variant problem solving.

Inbar (1976) analyzed the research and theory on simulations of bureaucratic decisions and the information processing limitations of human decision makers. Several traditional criticisms of simulation efforts in bureaucratic decision-making have been discussed. Hart and Sung (1976) used computer simulation of triad decision-making which examined four system variable that may affect the group members satisfaction with the group decision and the groups difficulty in reaching the decision. The variables were : (1) the decision rule used; (2) the relative similarity of the individual members' initial preferences position to the group decision; (3) the initial concordance of the group members preferences; (4) the group members preference strength. Ego involvement from Sherif's social judgement theory of attitudes was found to be a plausible process through which individual preferences can influence group decision. The results of the computer simulation were compared to the results from an experimental simulation of triad decision-making obtained by Sung and Castore. Differences and similarities in the two results and there implications for understanding group decision-making were discussed and explained.

Hoban (1978) identified the decision-making styles of student personnel administrators in higher education through use of an inbasket simulation. These decision-making styles as indicated by the result of this study, revealed three major indicators of behaviour. First, as a group, those student personnel administrators tended to concentrate their decision-making power within the dean of students office without much staff consultation. Second the subjects in this sample involved themselves little with other members of the college community. Third, they displayed very few instances of informalities when dealing with their staff.

2.1.6 Miscellaneous Researches in Decision-Making

Johnson (1973) identified the decision-making characteristics of administrators in predominantly black institution of higher education. The presidents academic deans and department chairmen viewed in many ways the role and functions of their office. The majority of the responses given by the respondent was in area of involving more people in decision-making process. The departments chairmen and deans stressed planning and co-ordinating the programmes of the departments. The president placed more emphasis in the area of pertaining to the finances of college.

Anderson (1974) identified and described methods of measuring value within the normative framework of decision theory and to discuss the feasibility of potential application to higher education. It was concluded that decision-making process in higher

education would necessarily require probability judgements and value assessments. A value decision approach would not replace subjective judgement and experiences nor do quantitative decision rule replace the human decision maker.

Sharples (1975) attempted to give caution against the indiscriminate use of economic analysis by examining some of its conceptual limitations, the usefulness of the techniques and the implications it has for particular aspects of an organization. Economics analysis should be applied but it may consider other values which would be pursuing long term efficiency.

Boehm (1976) suggested the judgement of the executive or of the computer point out should not dominate in the decision-making process of the organization. He advocated for the combination of the two on the basis of principles of system analysis based on nine principal methods of systems analysis, two econometric models and system dynamics. In order to develop new methods for improving decision-making and information systems it is necessary to understand how these systems currently operate. Carl (1976) reported some aspects of current administrative systems. Khoddami (1977) studied the student involvement in decision-making process. Results showed that students were not able to undertake activities related to their needs and interests. There was lack of opportunities for student participation in the governance of the college where students can make valuable contribution. Most significant finding was that neither students, faculty, nor administrators were satisfied with

the current situation. Srivastava (1977) found that most of the teacher and student respondents as a group could not entertain any reason against permitting teachers to participate in the administrative decision-making and functioning of their Institution.

Lynch (1978) conducted a study to improve decisions made by administrators. The purpose of the study was to determine by experimentation whether the anxiety level of the subjects who practised transcendental meditation could be reduced to a significant degree so that they could make better decisions under an externally imposed stress condition. The experimental group was taught transcendental meditation and practised the technique for two months. It was found that transcendental meditation was beneficial in helping the subject to reduce their level of anxiety, enabling them to make better.

Chapman (1978) conducted an empirical study of college choice decision-making behaviour. The study results suggested that the two most important factors in the college choice process were college quality and financial aid. Apparently students were quite rational in their college choice behaviour.

In a study Matthai, Pareek and Rao (1978) found out that higher the dissatisfaction due to under participation, less the organizational health of the education system. Darji and Sharma (1982) collected the opinions of faculty members of a University to study the students and non-teaching staff participation in University Governance.

Beasley (1980) assessed perceived outcomes of participants in the faculty development programme in historically black public colleges and universities during academic years from 1968 to through 1973. It was concluded that faculty development was beneficial to both participants and institutions; in the main participants achieved important outcomes. The extent of agreement between participants and co-ordinators with regard to those items of inquiry support these conclusions.

2.2 Organizational Health and Research

In the area of education management few of the researchers worked on organizational health. Organizations, like people, exist with in a fluctuating state of wellness. Organizational health or well being is dependent on the interaction of the collective internal and external forces that intervene to fulfill the purpose of the organization (Wagner, 1977). Organizational health is also dependent upon the creation of balance between the conflicting forces. Clark (1978) conducted a study to find out the relationship between the organizational health and organizational effectiveness of a small task group. Organizational health was defined in the study as consisting of a set of characteristics interpersonal competence, role clarity, goal clarity, integration and task performance. Result of this study indicated that there was correlational relationship between organizational health and effectiveness.

In a study Matthai, Pareek and Rao (1978) found out that higher the dissatisfaction due to under participation less the

organizational health perceived. Similarly, higher overall dissatisfaction in decisional participation was found to be related to poor organizational health. The areas of poor organizational health, experienced by more faculty from higher positions, were related to the power structure.

Thrasher (1980) examined the relationships between an administrator's ability to cope with stress and the health of the organization. The compliancy coping strategy showed a significant negative relationship with the organizational health dimensions of Problem Solving Adequacy; Resource Utilization; Goal Focus; Communication Adequacy and Adaptation. Apparently as Administrators became more complaint in their response to stress, their effectiveness in Problem Solving; Resource utilization; Goal focus, Communications and Adaptation was decreased.

2.3 Title of the Study

"A STUDY OF MANAGEMENT OF EDUCATION SYSTEMS WITH SPECIAL REFERENCE TO DICISION MAKING AND ORGANIZATIONAL HEALTH"

2.4 Definition of Terms

i) Management :

Management is a set of process alongwith activities to achieve organizational targets through the proper utilization of resources available at optimum level.

ii) Education System :

Any education system may be defined as an interrelated set of components which are directed towards the achievement of system's objectives.

iii) Decision-Making :

Decision-making is defined as a conscious and human process, involving both individual and social phenomena, based upon factual and value premises, which concludes with a choice of one behavioural activity from among one or more alternatives with the intention of moving toward some desired state of affairs.

iv) Organizational Health :

Organizational health is a set of fairly durable and secondary system properties which tend to transcend short term effectiveness. Living organism is a system which maintains its own personality. Similar is the case with the organization.

Chapter-I (context of the Research) has been devoted to elaborate above mentioned concepts.

2.5 Delimitations

i) The study has been delimited to Technical Education Systems of the following types:

- Technological University.
- Technically Oriented University.
- Indian Institute of Technology.

ii) For studying organizational health perceptions of following categories of faculty members have been taken:

(a) Professor or Associate Professor.

(b) Readers or Assistant Professors.

(c) Lecturers

(d) Associate Lecturers.

iii) Decision-making pertains to decision-making bodies and decisional participation of faculty members.

iv) Decisional-participations have been found out on the basis of perceptions of faculty members

2.6 Significance and Rationale of the Study

2.6.1 Significance of The Study :

The education systems have become the dominant cultural institutions of contemporary society. The modern education systems are in turmoil and the changes that are overwhelming it are out running individuals' ability to understand them. The small institution has become the contemporary multicampus giant, and decision-making, structures, one relatively simple have mushroomed into complex bureaucracies. At this important juncture of academic community environment there is a deeprooted crisis of confidence about system's ability to govern itself and to manage its affairs. In the process the academic community has become a conscious group, with forces inside struggling to gain participation over its decision-making process. Many members who are most affected by the institutional activities are systematically excluded from its decision-making bodies. Meanwhile, faculty activism is generating new patterns of faculty influence and new form of collective decision-making set up. Inspite of its many success there is a willing sense of frustration over the management aspect of the system. Members of the system are on the move to change the shape of the education

management. At such a time of crisis it becomes essential to know about the management of the system i.e. to know how decisions and policies are made by different members and how system's destiny is shaped; it is the complex of structures and processes that determines the critical decisions and, sets the long range policies.

According to Gore (1977) decision-making is an important management function and students of organizational behaviour are interested in the process of decision-making and its impact on formal and informal behaviour within an organization. Educational process might be described as an institutional manifestation functioning as a consequence of individual group, and societal decisions. Management literature mentioned decision-making as a means to achieve certain goals. The goals, to a large extent will influence the nature and process of decision-making. Members of the organization are working to achieve the common targets and goals of their organization sharing of responsibilities may be successful when participative decision-making strategies are developed. Likert (1961) describes the participation process on a continuum and believes that giving or sharing information is an essential part of participation and one of the first in moving towards more complete participation.

Important source of increased efficiency will be full development and skill-based application of the form of organization. Education system is also an organization which consists of a tightly knit, effectively functioning social system. This social system is made up of interlocking work-groups with a high degree of

group loyality among the group members. The effective functioning of any education system not only depends upon the structure of the management but also decision-making and organizational health. A study of decision-making and organizational health of education systems through the perceptions of its members is likely to reflect the important aspects of effective management. The present study is an attempt of its kind in the area of education management which will be providing support to design effective structures and processes of management alongwith a new horizion of insight and modified guide-lines for the research work to be undertaken in the future. It would be possible to weave new theories of education management with improved management techniques and practices to be used in changing environment. This type of research work may also be useful in planning aspect of management.

2.6.2 Rationale :

Considerable research supports sharing decision-making process among groups within organization (Bucklow, 1966; Campbell, Dunnette, Lawler, and Weick, 1970; Lowin, 1968). Under most conditions, groups have been found to solve problems and to make decisions more effectively than individuals (Watson and Johnson, 1972). Because group members together have more useful informations and more varied perspectives they recognize and consider more alternatives than individuals. Coch and French (1948) found that small groups of employees who evaluated and redesigned their jobs, when compared to employees who did not

participate in these changes, were found to be more productive. The group members work toward common goals, they are more likely to believe that members are using their resources co-operatively to achieve success (Johnson and Johnson, 1974). People in highly co-operative organization, eventhough unequally powerful, relationships may communicate openly, develop trust, and resolve conflicts effectively (Deutsch, 1973). In addition, groups that make their own decisions are likely to be committed to their implementation. Members are likely to understand the decision and its rationale and to be aware of how they act in order to implement the decision. They are also likely to believe that, because other group members are committed to the decision, they must contribute to implementing the decision if they are to gain the esteem of others. Members are also likely to experience psychological success; involvement in the challenging tasks of making decisions and solving problems can help them to develop their social and intellectual capabilities (Argyris, 1970). The experience of making decisions may contribute to their feelings that they can shape their own lives (Rotter, 1966; de Charms, 1976). The co-operative interaction of group decision-making should strengthen the group as a source of support for its members (Deutsch, 1949; Johnson and Johnson, 1974).

Participation is a necessary, although hardly sufficient, condition for the self-renewal of an organization, several studies report the successful self-renewal of system (Polly, Taylor and Thomson, 1976). More recent research takes issue with the presumption that all participation is automatically

beneficial for the organization. Greater participation by the teachers in administrative matters produces positive effects primarily when it is desired by the teachers and rarely when it is imposed on them unwillingly (Al..utto and Belasco, 1973). The extent to which this desire is satisfied may be overestimated by administrators who characteristically perceive more participation than is perceived by participants themselves (Ecert, 1966). The difficulty is however, that the division of labour usually provides but few opportunities for significant participation by the members. Ikenberry (1970) argues for participation through a "multiplication of forums". For the rebuilding of academic communities within the multiversity structure. Differential participation affects the distribution of power within the organization. Participation managerial styles lead to increased supervisor effectiveness, teacher satisfaction decreased student alienation, and improved student achievement (Ratsoy, 1973). Varying degree of interest may affect the willingness of even high officials to expend the energy necessary to influence decisions. Members playing different roles, and involved in varying degree will differ in their ability to understand the reasons behind many decisions. The connection between participation and communication is of central importance in contemporary studies of organizational effectiveness.

Sometime application of participation to decision-making situations frequently produces considerable difficulty and conflict. The inbuildings of purpose is a challenge to

creativity because it involves transforming men and groups from natural, technical units into participants who have a peculiar stamp, sensitivity, and commitment. In India, few researches have been done in the area of decision-making. Management of education systems may get impact from the health of the organization. A healthy organization can grow and grow with the changing environment. Thus management functions are related with the aspect of organizational health. In the area of education management few research studies have been done considering the aspect of organizational health. Clark (1978) found relationship between organizational health and effectiveness. Pareek, Rao and Matthai (1978) studied the decisional participation in relation to organizational health, for Agricultural Universities. Thrasher (1980) worked on the aspect of organizational health with the administrators ability to cope with the stress. But these researches are not adequate to form some solid conclusions. It could be inferred from the research investigations undertaken in the areas of decision-making and organizational health that more research attempts are required to form solid conclusions.

Considering the importance of the Education Management and available researches done in this area, the present investigator has selected the problem. "A study of management of education systems with special reference to decision-making and organizational health". The study is delimited to technical education systems (Technological University; Technically oriented University and Indian Institute of Technology) which are important for national development and worth for research work.

2.7 OBJECTIVES :

I) To study the management of a Technological University (Education System - I).

Specifications : This objective covers up

1. Governance
2. Existing participation of faculty members (Real participation)
3. Expected participation of faculty members (Desired participation).
4. Discrepancies between existing and expected decisional participation of faculty members
5. Organizational health of the Education System.
6. Relationship between organizational health and decisional participation (Existing or Real).
7. Relationship between organizational health and decisional participation (Desired or Expected).
8. Relationship between existing decisional participation and expected decisional participation.

II) To study the management of a Technically Oriented University. (Education System - II).

Specifications : Same as given in the Objective (I).

III) To study the management of an Indian Institute of Technology (Education System - III).

Specifications: Same as given in the Objective (I).

IV) To compare the above mentioned education system i.e. Technological University: Technically Oriented University; I.I.T. (Indian Institute of Technology), with reference to
   1) Governance aspect
   2) Decisional participation of faculty members (Existing and Expected)
   3) Organizational health

V) To study the relationship between existing decisional participation and Organizational health.

VI) To study the relationship between expected decisional participation and Organizational health.

VII) To study the relationship between existing decisional participation and expected decisional participation

} Considering three education systems

VIII) Factor analysis of the organizational health questionnaire.

2.8 METHODOLOGY :

1) Selection of Education Systems for this Investigation :

As already pointed out that study has been delimited to Technical Education Systems (Technological Universities, Technically Oriented Universities and I.I.Ts.) . There are three Technological Universities, two Technically Oriented Universities and five I.I.Ts. In Technological Universities and I.I.Ts. technical courses are leading while in Technically Oriented Universities special emphasis is given to technical courses. Here technical courses includes courses on

engineering, technology and applied sciences. For developing research instruments, one Technological University and one I.I.T. have been taken. For final study, out of remaining two Technological University, one has been selected, out of two Technically Oriented Universities, one has been selected; Out of remaining four I.I.Ts. one has been selected. Thus, three education systems have been selected from the same zone. Objectivewise sample distribution has been shown here:

Objectives	Faculty members who responded properly
I-2, I-3, I-4, I-5, I-6, I-7, I-8.	From the Technological University: Professors - 30 Readers or Assistant Professors - 70 Lecturers including of Lecturers-100 Total ...200
II-2, II-3, II-4, II-5, II-6, II-7, II-8	From Technically Oriented University: Professors .. .. 10 Readers .. .. 20 Lecturers .. .. 40 Total 70
III-2, III-3, III-4, III-5, III-6, III-7, III-8.	From I.I.T. Professors .. .. 30 Assistant Professors. .. . 60 Lecturers 40
IV	All the respondents (as shown above for three different education systems).
V, VI, VII, VIII	400 Faculty members of different categories shown above.

Position of faculty members available at the time of data collection in different Education Systems :

Education System \ Faculty	Professor	Readers/ Asst.Prof.	Lecturers	Total
Education System-I	48	110	181	339
Education System-II	17	23	68	108
Education System-III	85	127	118	330
	150	260	367	777

Note : (a) In Education System-I:

Assistant Professors/Readers ------- Readers.

Associate Lecturers & Lecturers------ Lecturers

for this research investigation.

(b) Mode of data Collection:

Personal visit and postal communications.

(c) Research Instruments had been supplied to all the faculty members mentioned above. Returned data sheets (completed) have been considered only.

(d) In I.I.T. only major departments have been considered excluding Research Centres having limited faculty members.

Variables considered :

i) Decisional participation (Existing based on the perceptions of the respondents).

ii) Decisional participation (Expected or desired or would be) based on the perceptions of the respondents.

iii) Organizational health based on the perceptions of the respondents.

TOOLS USED :

i) Interview (informal)

ii) Documentry records.

iii) Decision-making participation instrument (Real or Existing).

iv) Decision-making participation instrument (Expected or Desired).

v) Organizational health Questionnaire.

DATA COLLECTION :

Following is the scheme which provids objective-wise informations of tools used for data collection:

Objective	Tools used
I-1, II-1, III-1, IV-1	Tool No.(i) and (ii)
I-2, II-2, III-2	Tool No.(iii)
I-3, II-3, III-3	Tool No.(iv)
I-4, II-4, III-4 I-8, II-8, III-8	Tool No.(iii) & (iv)
I-5, II-5, III-5, IV-3	Tool No.(v)
I-6, II-6, III-6, V	Tool No.(iii) & (v)
I-7, II-7, III-7, VI	Tool No.(iv) & (v)
VIII	Tool No. (v)

Statistical techniques for preparation of Research Instruments :

Percentage, Mean, Standard Deviation, 't'-test, Correlation (r)

Statistical Techniques for data analysis :

Objective No.	Statistical Measures used
I-2, I-3 II-2, II-3 III-2, III-3	Percentage, Mean
I-4, II-4, III-4	Mean, S.D., t-test, Chi-square test
I-5, II-5, III-5 IV-2, IV-3	Mean, S.D.
I-6, I-7, I-8 II-6, II-7, II-8 III-6, III-7, III-8	Correlation (r)
VIII	Factor analysis

Mode of calculating statistical measures :

i) Hand calculations

ii) By calculator

iii) Computer (P.R.L., Ahmedabad).

Task-analysis :

After having selected the education systems for the investigation the investigator developed research instruments for the present investigation. Then data collection has been done for different type of education systems. Data analysis

and interpretations and conclusions comes next step for the research investigation which forms the aspect of results and discussion. Then research report has been prepared.Following is the scheme of Chapterization:

CHAPTER - I	:	CONTEXT OF THE RESEARCH.
CHAPTER - II	:	CONCEPTUAL MODEL OF THE PRESENT STUDY.
CHAPTER - III	:	DEVELOPMENT OF RESEARCH INSTRUMENTS.
CHAPTER - IV	:	MANAGEMENT OF A TECHNOLOGICAL UNIVERSITY (E.S.-1).
CHAPTER - V	:	MANAGEMENT OF A TECHNICALLY ORIENTED UNIVERSITY (E.S.-2)
CHAPTER - VI	:	MANAGEMENT OF I.I.T.
CHAPTER - VII	:	COMPARATIVE VIEW AND FACTOR ANALYSIS OF THE O.H.Q.
CHAPTER - VIII	:	SUMMARY OF THE FINDINGS - EDUCATIONAL IMPLICATIONS AND SUGGESTIONS.

Objectivewise task specifications in relation with Chapters

	Objectives covered	Chapters
I	1, 2, 3, 4, 5, 6, 7, 8.	IV
II	1, 2, 3, 4, 5, 6, 7, 8.	V
III	1, 2, 3, 4, 5, 6, 7, 8.	VI
IV	1, 2, 3.	VII
V, VI, VII, VIII		

SOME CLARIFICATIONS

1) Formulae of the statistical measures and statistical tables have been used from the book by Henry E. Garrett (1969).

2) In this research report :

(a)	DECISION MAKING ---------	DECISION-MAKING.
(b)	Organizational health-------	Organisational Health
	-----	O. H. Q.
(c)	Organization ---------	Organisation.
(d)	Utilization ---------	Utilisation.
(e)	Decision-making participation ---------	Decisional participation
(f)	Education System-I --------- or E.S.-I	Technological University.
(g)	Education System-II--------- or E.S.-II	Technically Oriented University
(h)	Education System-III ------- or E.S.-III	Indian Institute of Technology

3) Readers .. .. ---------- Assistant Professors.

4) Lecturers.. .. .. .. ---------- Associate Lecturers.

5) For comparing three Education Systems inferential statistics could not be applied due to certain limitations.