THE   UNIVERSITY OF HULL

Towards a Revised Model of Innovation
in Organizations

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Doctor of Philosophy

in the University of Hull

by

Hossein Rahmanseresht
BA, MBA (Industrial Management Institute,Iran)

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To the people whose love for Allah
guided them to be united under a
great leadership, who led them to
bring about an epoch-making
Innovation in their history without
any preplanning.

29 JUN 1988

Towards a Revised Model of Innovation in Organizations

Abstract

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This research consists of four parts. In Part One, innovation is viewed from a theoretical perspective. Part Two is devoted to the description of the case. Part Three covers the analysis of the case. Part Four comprises the implications of the study for theory and practice as well as a research agenda.

Derived from a single case study, the findings of this thesis can be regarded as indicating hypotheses to be verified by other students of innovation. These findings mainly suggest that:

(a). Irrespective of its manifestation, innovation is driven by its essence, which is abstract.

(b). A process of innovation has two sides: on the surface it is

linear and, like an organizational chart, is static; but it is iterative and sine linear under the surface. It is dynamic like the reality of organization.

(c).It will be misleading to distinguish between _administrative_ and _technical_ as a way of accounting for the possible differential impacts of some variables on strategic innovations.

(d).Different aspects of the same elements may affect either the initiation or the implementation of an innovation.

(e).More attention has to be paid to the relationship between group variables as well as organizational fairness, or equity, and innovation.

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Table of Contents

Appendices

References

List of Tables

List of Figures

CHAPTER ONE

Introduction

Innovation has been regarded as a prerequisite for progress. Organizational effectiveness has been equated with innovativeness (Kimberly, 1981; Tornatzky et al., 1983). Organization and management scholars have put a lot of effort into coming up with ways of facilitating innovation. Research (Gordon et al., 1975) indicates that studies on innovation in organizations amounted to 2000 items by 1975. This adds to the large bulk of non-academic articles on the subject.

The number of innovation studies have increased sharply since. However, the findings of these studies have usually been inconsistent. It has been found that organizational complexity increases (Moch and Morse, 1978), decreases (Blau and Mckinley, 1979), and does not affect (Daft and Becker, 1978) innovation, just to give some of the many examples. Authors (e.g. Downs and Mohr, 1976; Tornatzky et al., 1983) have related these inconsistencies to conceptual and methodological shortcomings.

It appears that the manner in which innovation is viewed and treated has been a major source of those shortcomings. Innovation is conceptualized as a multi-stage linear process. Then, according to Tornatzky et al. (1983), one of the stages, the adoption, or adoption decision, stage, has been treated as the

1

dependent variable. Inferences have been drawn about the relationship between innovation and some independent variables on the bases of the relationships which have been established between adoption and those variables. As such, adoption has been equated with innovation. However, as these authors noted, innovation may not evoke all influence processes at the same time; it may evoke one set of such processes after another as it unfolds. They thus implied that relating the possible determinants of just one of its stages, adoption, which is almost always defined in retrospect, to the whole innovation process, can continue to lead to studies producing inconsistent findings.

Criticisms, such as those mentioned above, not only call the validity of much of research into question, but also imply that a specific model of innovation is at the heart of the problem. However, there does not seem to be a comprehensive model of innovation, at least relative to organization, although many paradigms have been developed. According to Mohr (1982), a process model should reveal which variables predominate in each of the stages and which forces prevail in movements between stages. Although "this may be the goal of innovation process research, it is a goal not yet achieved." Tornatzky et al. (1983: 26).

Given this state of affairs, this study will attend to the innovation process as whole. It will also attempt to discover how some possible deteminants of innovation influence it as it

unfolds. These determinants include some of the thus far relatively less heeded factors. To put it succinctly, this study will undertake to answer the following questions:

-How does innovation unfold before it is routinized?
-How do individual, organizational (particularly cultural and group processes), and environmental variables affect innovation as it unfolds?

The study is divided into four parts; literature review, a case history, the case analysis, and the implications for theory and practice.

In Part One, some definitions of innovation are considered. A new definition is offered and a distinction is made between innovation and change. Attention is then focused on the categories and sources of innovations. This is followed by the processes of innovation and its determinants. It is believed that the historical approach this research adopts in reviewing some of the relevant studies can disclose a few of the less heeded aspects of innovation. Part of this overview considers the relationship between the development of organization, organizational culture as well as the group dynamics and innovation.

Part Two begins with the scope and the design of the case to be reported in this thesis and contains a framework for its explanation. The framework is derived ex post facto from the

observation of the advancement of the innovation in its setting. This part carries on by looking at the general context and the setting of the study. Following these is the description of the case history of an innovation introduced in a higher educational setting in Iran. Although the Innovation is an educational one, the case analysis is confined mainly to the process and the administrative issues involved in bringing it to use.

The Initiation and Implementation Phases of the Innovation are broken down into some sub-processes. These represent some of the significant events and/or activities that occured or were performed during the introduction of the Innovation. The case description does not include any analyses. Analysing the case in the course of explaining it is avoided for two reasons. First, both the case and the analysis might be obscured by interfering with each other. Second, this approach could mean that the influence of each set of the determining variables should be analysed relative to each of the sub-processes. This, in turn, could mean much reiteration with no clear advantage. The analysis of the case is therefore reserved for Part Three. Because Part Three includes some significant aspects of the case, this is not summarized at the end of Part Two.

Part Three begins by considering the Innovation dimensions and carries on with an analysis of the influence of the individuals, organizational cultures, groups, and the environ-

ment. The analyses combine certain innovation-related concepts - covered in Part One - and a few inputs, with the most relevant aspects of the case. Because the sub-processes of the Innovation overlap, the impacts of the determining variables on each individual sub-process are not studied. However, efforts are made to demonstrate whether each of the above elements influence the Initiation and Implementation Phases differentially.

Part Four is devoted to conclusions that are drawn from the analyses. To follow the objective of the thesis, the implications of the study are related mainly to some of the conceptual issues concerning innovation in organizations. Nevertheless, a few very general suggestions have been made regarding the management of innovation. This Part is concluded with an agenda for further research on innovation.

Having defined the objective and structure of the study, it is necessary to identify the contributions that, it is hoped, have been made. The study adopts an historical approach in reviewing several innovation studies. It can therefore illustrate the process of evolution of innovation research and can thus enrich the body of literature.

Other contributions are made towards a theory of innovation. A new definition is offered for innovation. Innovation is distinguished from ordinary change. The validity of the assumptions that dimensions such as those labelled as

administrative and technical can explain the influence on innovation of certain factors has been questioned. It is demonstrated that certain other dimensions can better account for the impacts of those factors.

A revised model of innovation is devised on the basis of the analysis. The model indicates that although innovation looks linear on the surface, it is in fact sine linear. Some characteristics of the new model are reported as well.

Although studies on group processes and organizational fairness, or equity, date back several decades, innovation students have seldom examined the influence of these factors on innovation. Hence the reference to these factors in this study is relatively novel. It must be noted, however, that the findings concerning the impact of equity on innovation are unanticipated by-products of the analysis of the case.

The study is not intended for producing a how-to recipe. However, the implications for theory, and a few general suggestions that are advanced concerning the management of innovation, may be useful to practioners. Finally, this author would regard his foremost contribution to consist of a few thought provoking issues that can lead to further research.

It should be stressed that innovation is treated as a dependant variable in this study. In other words, other variables are taken as given. Hence we do not concern ourselves with issues

such as whether or not what some authors have called organizational cultural artifacts are tenable or not.

It is also necessary to mention that common nouns are capitalized if they refer to specific things and places. Therefore, "the Organization" refers to the specific organization with which we are concernend in this study.

Part One

The Theoretical Perspective

CHAPTER TWO

The Essence of Innovation

2.1. The Definitions of Innovation

Organization and management theorists have attempted, probably no less than researchers in other disciplines, to come up with a reliable definition for innovation. These efforts have yielded a host of definitions that, though different from one another specifically, frequently overlap in certain aspects. The definitions are classed in various related groups that contain similar ingredients. There are, of course, a few definitions that do not fit in any one single group, yet even they are not totally unrelated. Appendix A gives a list of some of the definitions. The following paragraphs, however, review some of the components that have been seen as central to innovation by the authors who have proposed a definition.

Thompson (1965) and Van de Ven (1986) referred to innovation as both the generation and implementation of new ideas, processes, products, or services. Other authors did not regard the generation of new ideas, etc. as important as their use. They singled out the implementation, introduction, utilization, or use of ideas as innovation (Evan and Black, 1967; Mohr, 1969; Rowe and Boise,1974; Kanter, 1985). Rowe and Boise placed emphasis particularly on the innovator's decision, so that unless an innovation is "introduced as a result of decisions made within" the adopting organization, it is not to be

credited with innovation. Becker and Whisler (1967), Yin et al. (1977), and Downs and Mohr (1976) emphasized the earliness of the introduction of a new idea. Furthermore, whereas Downs and Mohr considered the extent of the use of ideas as innovation, Knight (1967) saw innovation as a change that is not only new to the adopter but to the adopter's relevant environment as well.

Newness has been an integral part of almost all the foregoing definitions. However, Rogers and Shoemaker (1971) indicated that if an idea is perceived as new by its adopter, it may be regarded as an innovation despite the fact that it may be viewed as old by others. Unlike Knight (1967), these authors, as well as Downs and Mohr (1979), maintained that the newness of an idea to the respective adopter will justify calling it an innovation irrespective of whether or not the adopters' peers had already adopted the idea. In contrast, Wilson (1967), Kimberly (1981), and Delbecq and Mills (1985) did not see newness as the important ingredient of innovation; instead they emphasized the significance or the importance of the change that is being adopted.

Kimberly's definition of innovation is a departure from other definitions in being concerned specifically with managerial rather than other types of innovations. Nevertheless, it is similar to most of the definitions in as much as the referent of his 'managerial innovation' is a "program, product, or technique." Shepard's (1967:470) definition at least sounds

different, despite the fact that it may not differ drastically from the others in essence. According to him, "when an organization learns to do something it did not do before and then proceeds to do it in a sustained way, a process of innovation has occured."

In view of the variety of definitions, a focus on some other aspects of innovation may appear more useful. However, a definition of innovation is normally related to those other aspects, e.g. the innovation process, and can connote the basic assumption(s) of the researchers.   Hence unless a study advocated one of the definitions, one should be advanced so that the focus of the relevant empirical or theoretical issues is made clear.   The definition that will be suggested in this study will be a new one, but not so new as to exclude some aspects of innovation captured by the preceding definitions.

Innovation in organizations is defined <u>as the process whereby an adoption unit chooses a significant alternative that is per-ceived as superior to and/or different from some current practice or outcome and attempts to realize it so that a deficiency in the practice or outcome can be corrected or so that either/or both can be improved</u>.

Central to this definition is the possibility of <u>choice</u>, not just among two or more alternatives but between adoption or rejection. If an innovation is imposed on a potential adopter, there will be hardly any justification for considering the

adopter an innovator as well, regardless of how desirable the effect of innovation may be to the adopting unit (cf. Rowe and Boise, 1974: 285).

Another element of the definition is the perceived superiority of an alternative, which is meant to connote newness, an element which has been emphasized in most previous definitions. Seeing something as superior can imply newness to those who are enamoured of the new without scaring the ones that may be afraid of it. In fact, as has been implied, an innovation is more likely to be adopted by its potential adopters when its newness is not particularly emphasized (Kelley, 1976).

The last element is the relationship between the implementation of innovation and its effect. The implementation of an innovation without achieving anything may not have been worthwhile. Such an inconsequential attempt may resemble shooting in the wrong direction or using the wrong means to attend the right end.

An element which seems to be absent from this definition is what some definitions have referred to as "idea generation". Although idea generation is regarded as an important element of innovation, it is not included in the definition explicitly because an innovation may be developed for a specific organization. For example, an organization may ask a consultant to help it with a problem that may call for an innovative solution. Neither in this case nor in cases where a

customer or a client approaches a focal organization for the execution of an innovation, whose blueprints had already been prepared, is innovation <u>generated</u> in the organization. In all these cases, however, the undertaking involved can still qualify as innovation if it satisfies the conditions for innovation which our definition sets forth.

Having said that <u>idea</u> <u>generation</u> is not included in the definition explicitly, it should be added that this does not mean this is absent in reality. In fact, it is arguable that even if an innovation is only brought from outside, rather than being internally generated, both its choice and implementation, in effect, engage the adoption unit in activities similar to those involved if it were generating the innovation itself. If the adoption of an innovation is not just symbolic or cosmetic (see Chapter 3) in either the selection or execution processes, the unit is very likely to do things similar to the things it might do if it wanted to formulate the innovation itself.

The degree of adopters' sensitivities to an innovation will determine the depth of their analysis of it. At one extreme there may be few, if any, decision-makers, who may adopt it blindly or automatically. At the other extreme, there may be many, who want to understand an exogenous innovation so well that they will feel easy working with it. It is also very likely that the adoption unit will want to modify such an innovation so that it feels responsive to some particular needs, possibilities, and/or aspirations. To feel reasonably

confident that the innovation or its manipulated version can respond to those needs and/or aspirations, or can match with possibilities and capabilities, requires prior understanding of the innovation. The attempts to understand the innovation before it is selected or implemented may go so far as to give the adoption unit the feeling that they have initiated the undertaking themselves.

If implementation is to involve an extensive degree of analysis of an exogenous innovation to the point of generation, then it is justifiable to conclude that buried in the implementation is the generation, analysis, or even a drastic adaptation of the innovation (what Rogers (1983) called "re-invention").

Having reviewed some definitions of innovation, we will look to see if a distinction can be made between this concept and change.

2.2.Innovation Versus Change

It appears that scholars have been relatively uninterested in addressing this topic. Relative inattention to this matter might have been because the authors have regarded it as unimportant. It might have also been because there has not been a reliable conceptualization of innovation (Warner, 1974) to lay a sound basis for making such a distinction. There are however a few researchers who have taken up the issue either implicitly or explicitly.

Miles (1964) distinguished between change and innovation by offering two distinct definitions. Miles referred to change as a "...very nearly undefined, primitive term. It generally implies that between time 1 and time 2 some noticeable alteration has taken place in something."(p.13) However, he saw innovation as "a deliberate, novel, specific change which is thought to be more efficacious in accomplishing the goals of a system." It is something "...willed and planned for, rather than as occuring haphazardly." (p.14)

Unlike Miles, Knight (1967) found the interchangeable use of innovation and change admissible because he had found no evidence to show there is a difference between the two. However, Becker and Whisler's (1967: 463) definition of innovation as the "first or early use of an idea by one of a set of organizations with similar goals", gave Aiken et. al. (1980) the impression that change is a more general concept than innovation. Aiken et. al. implied that when it comes to the adoption of an innovation by a group, not just by one, "of a set of organizations with similar goals" the innovation loses much of its novelty and riskiness, thereby becoming generalized and reduced to change.

Delbecq and Mills' (1985:25) definition of innovation carries an explicit distinction between change and innovation and does not require any elaboration. They defined innovation as "...a significant change within the organization or its line of

services or products that (a) requires a substantial adjust-
ment, and (b) is successfully introduced into the organization.
As such it differs from 'incremental change' (involving minimal
disruption, usually within current tradition) and 'invention'
(which might not become institutionalized.)"

Excluding Knight's view of the two concepts, the above
discussion clearly indicates that, unlike innovation, change is
taken to mean something general, relatively insignificant,
something haphazard and less risky which may not cause any, or
much, disruption within the organization. These features, that
have been identified for the purpose of distinguishing between
the two concepts, do, indeed, distinguish between a certain
type of change and innovation in general. Notwithstanding
this, they allow for treating another type of change as
innovation. This second type of change, which is to be
planned, significant, may involve disruption in the or-
ganization and also carry a fair amount of risk, has much cur-
rency in the change literature (e.g. Bennis et. al., 1969).

The latter type of change, which very well qualifies as
innovation, given the above features attributed to innovation,
has been mainly concerned with structural changes in work
organization, as is indicated in the writings of some authors
(e.g. Whipp and Clark, 1986). O'Connell's (1968) analysis of
an attempt of reorganization in a large insurance company is an
example of this type of change or innovation. Peters and
Waterman's (1982) work has much to do with this type of

innovation as well.

Innovation studies however include a wide array of changes, of which structural change is but one. Innovation is normally said to comprise a change in a product line, services, etc. as well as the addition, not necessarily changing anything, of something to the organization and even with establishing something new, say a new faculty in a university. Given the vast scope of the concept of innovation, it can be concluded that innovation is more general than change in the sense change is used in much of the relevant literature.

Having commented on the distinction between innovation and change, it may be useful to explain more fully what we regard as innovation in this study. A change is seen as innovation if it fulfills four conditions:

(1) If it is _intentional_ and _planned_, at least, to some extent (because it is doutful if any change or innovation can be fully planned). Hence changes, improvements, in an interviewers' proficiency, which may come about unconsciously because of do-ing the same job repeatedly, will not be seen as innovation.

(2) The change is _strategic_. Introduction of new products, diversifications, setting up of new establishments, major structural changes, not the structural changes that may be an unintentional by-product of other changes, changes in the overt behaviour of the decision-makers affecting the whole organiza-

tion, etc. are some examples of what is meant by strategic change.

(3) It is seen as <u>significant</u>, if not risky, by the adopter. It does not matter if the change is regarded as trivial by more distant observers; it will be seen as innovation if its adopter has to make a major effort to bring it into use. Schon (1967: 40) was explicit about this point when he said:

> A relatively small development - for example a new electronic component - may require for its acceptance a major change in technology and corporate structure. A large-scale effort, such as a missile system, may require little more than scaling up of proved engineering devices and principles, entailing little disruption of the technology and little organization change.

(4) The strategic change must be <u>implemented</u> to qualify as innovation. We expect an innovation to achieve something. Hence if nothing is achieved, the expenditure of a lot of resources and energy can only qualify as a major effort or waste rather than as innovation.

The above qualifications for innovation do not make it non-change, rather they imply that not all changes are innovations, but these are changes of a particular type.

Although the explication of innovation can make its boundaries more specific, it cannot make all change literature irrelevant to a study of innovation. However, an innovation study cannot possibly draw upon all the relevant literature, given the quantity of the existing material. Moreover, innovation cuts across several disciplines (Warner,

1974 and others) each of which has contributed to the literature and thus has made the material even bulkier. To cope with the huge amount of material that can be drawn upon, an individual researcher has little choice but to limit himself to the studies subsumed under innovation within a specific area in a particular discipline. This is the line that will be followed in this study as much as possible; use is made of a few change and other studies only when they are found extremely helpful.

CHAPTER THREE

The Categories of Innovations

Although students of innovation differ from one another about some aspects of this concept, they seem to agree on relatively similar broad categories of innovations. To be sure, they have suggested different classifications, but these have been either the same thing put forward differently or have only been complementary. The definitions that they have advanced normally include groups of similar components. Remember that they have seen innovations as an idea, product, service, etc., or a significant, radical, or fundamental change. Remember also that while some authors have focused on managerial innovations, others have concentrated on technical innovations, but hardly anyone has rejected the other classes.

Based on the above components of the definitions, idea, product, managerial, etc., innovations can be classified and explained in terms of their (a) referent, (b) situation (the circumstance in which they occur), and (c) significance. Of these three broad categories, the first and the third can be seen as attributes of innovations, and the second as a state of organization relative to innovation. If organizational actors are considered as important as, if not more important than, innovation properties or the state of organization in an innovation situation, it will be worth adding another category whereby innovations are related to the purpose for which they

are intended; i.e., the purpose(s) for which initial adopters may adopt them. Hence, there will be another class which will be explained in terms of (d) <u>innovation purpose</u>.

Needless to say, if innovations were only physical objects, which perhaps are more amenable to classification, they could be categorized differently according to such properties as, for example, chemical or physical. But not all innovations have physical manifestations, if indeed they were physical objects at all, to admit of such clear-cut classifications. Accordingly, the innovations that are categorized under one heading may well fit in or encroach upon another category unless only one classificatory aspect, or attribute, of them is taken into consideration at a time. Hence, it should be clear that these categories are not mutually exclusive. Therefore, it is quite possible for one innovation to fall within the sphere of all the four categories at the same time. As such, a radical (significant category) service innovation (referent category) may be introduced under the condition of distress (situation category) in order that the company's profits (purpose category) are improved.

The classification of innovations can enhance our understanding of the nature of innovations, providing us with better conceptual tools for explicating their dynamics in organizations. Hypotheses can be developed as to the relationship(s) between innovations in one category and, say, individual/organizational variables, or between those belonging to one category and

another. Given the utility of categorizations, we shall proceed to discuss these in the ensuing paragraphs.

3.1.The Referents of Innovations

It was perhaps Ogburn's (1922) distinction between technology (material culture) and other social institutions (non-material culture) that laid the foundation for organization and management theorists to attend to the socio-technical systems of organizations in general and technical and non-technical innovations in particular. But work on these two types of innovations did not gain impetus until after Barnett (1941) and others distinguised between them specifically by suggesting that material items find more ready acceptance because (1) they are more easily communicated, (2) their utility is more readily demonstrable, and (3) typically they are perceived as having fewer ramifications in other spheres of personal and social life. Later Menzel (1960) condensed these attributes, suggesting that the extent of (1) communicability, (2) risk, and (3) pervasiveness of innovations will affect their adoptability.

A broad classification of innovations was later suggested by Evan (1966). He categorized innovations into two general classes; technical and administrative. These two sets of innovations were related to socio-technical systems of organizations, which had been identified by Emery and Trist (1960). More specifically, the former would relate to the organization's technology whereas the latter would touch upon

its social structure. According to Evan (1966:5), technical ideas are "more tangible and more proximately related to the profit goal of an industrial organization than is a new administrative idea." He also indicated that the second type of innovation would require more time to have any discernible effect. His examples of administrative ideas included new policies pertaining to personnel recruitment, resource allocation, reward systems, etc.. His examples of technical innovations were products, physical processes, or a service.

The work of later authors have been more or less in accord with that of Evan's in bolstering the above categories. But whereas technical innovation has received a lot of attention, few theorists have concentrated on administrative or managerial innovation. Notable exceptions are Rowe and Boise (1973, 1974), Kimberly (1981), and Kanter (1985). Moreover, some theorists have added a third category to the foregoing classes. For example, Knight's (1967) classification included organizational-structural innovation, which is primarily concerned with structural charcateristics of organization. Others (e.g. Zaltman et. al., 1973; Rowe and Boise, 1973 & 1974) have also pointed to innovations of this type but hardly any clear distinction can be found between structural and administrative innovations.

Both administrative and technical innovations have been classified into some sub-categories. Most, if not all, authors have distinguished among product, service, and production-

process innovations, which can be seen as the sub-categories of technical innovations. People innovation, i.e. the change of personnel or their attitudes and/or beliefs through firing, hiring, or training (Knight, 1967), as well as value-centered innovations, i.e. the change of policy and strategy (Dalton et al., 1968), have been offered as the sub-classes of administrative innovations.

3.2.The Situations of Innovations:

Organizations' involvement in any one of the above categories of innovations seldom falls outside two general patterns; they may be involved in innovations which were scheduled in advance, or they may be engaged in innovations with no pre-set arrangements. The introduction of innovations in these manners, which can represent different situations, has been the basis of categorizing innovations into routine (programmed) and non-routine (nonprogrammed) classes (Knight, 1967).

Routine innovations represent a set of changes that are arranged to be effected through well-defined routines and procedures. Minor modifications in the product and minor extension of the product line exemplify these innovations. One specific aspect of these innovations, according to Knight, is that they are not particularly associated with the success or lack of success of the organizations adopting them.

Unlike routine innovations, there are no well-defined procedures for non-routine innovations. Knight associated this

class of innovations with the success or lack of success of organization, terming them slack or distress according to whether they are introduced in situations of munificence or parsimony respectively. To define a slack situation, he followed Cyert and March's (1963) hypothesis, which had related the firm's capability of acting in a variety of ways to the excess resoures produced by its success. He then referred to distress as a condition in which the organization perceives itself as being unsuccessful. (For an extensive review of these categories, see Zaltman et. al., 1973)

3.3.The Significance of Innovations

It has sometimes been implied (e.g., Wilson, 1967; Kimberly, 1981) that significance is an important aspect of innovation that distinguishes it from ordinary change . But if significance is to include the extent of both depth and breadth of innovation (to be explained below), the literature indicates that the terms which have been used to represent significance do not always emphasize both these dimensions equally. Hence, innovations may be categorized according to the dimension (depth or breadth) that is meant to be emphasized. There are, of course, those definitions of innovation that make the concept impervious to such classifications in that they combine the two dimensions. But there are others that allow one to categorize innovations across the two dimensions.

To distinguish between two types of innovations, Knight's (1967: 482) discussion of radical innovations suggested using

such measures as performance radicalness (i.e., the extent of increase or decrease in organization's ability to perform a task) and structural radicalness (i.e., the extent of change in structural arrangements). He associated radicalness closely with the riskiness and novelty of the innovation. Hence his radical innovation can be related to the depth of the impact of the change because however radical its effect may be, it may not necessarily involve a large number of the organizational members and/or tasks all of the time. However, an innovation which is a drastic departure from the past ways of doing things and involves more members of the organization adoptiong such a change is more radical than the one that involves fewer members.

Normann's (1971) study of cases of product development in some Swedish companies also included two broad classes of innovations which he called <u>variations</u> and <u>reorientations</u>. These categories seem to be very much in line with Knight's routine and radical innovations in that variations are concerned with minor/regular changes whereas reorientations, particularly <u>idiosyncratic</u> ones, are concerned with major/irregular changes. Normann related reorientations to the organization's ability to perform a required task, which is similar to Knight's performance radicalness discussed above and thus can be related to the depth of change.

Whereas the above categories could be related more to the depth of change, Wilson's (1967:196) definition of innovation con-

siders both the depth and the breadth of change. By referring to innovation as a "fundamental change in a significant number of tasks", Wilson emphasized not only the depth, i.e., fundamental change, but also the breadth, i.e., significant number of tasks, of the innovation.

Some authors appear to be more inclined to the breadth of innovation. For example, in their analysis of innovation in the auto industry in Britain, Whipp and Clark (1986) offered some definitions for strategic innovations and placed the accent on the breadth of change. Acknowledging the importance of radicalness, they maintained that care needs to be taken not to confound a radical innovation with a pervasive one such as a strategic innovation, which may not necessarily be very radical.

Although the classification of innovations by depth or breadth, radicalness or pervasiveness may provide a better insight into the dynamics of innovation in case studies, it can make the measurability of the significance of an innovation problematic for survey type researches. Hence, operationalization of the combined effect of depth and breadth of innovation has been suggested by Kaluzny et al. (1972). As such the degree of the risk involved in innovation can be a measure of significance, which includes both radicalness and pervasiveness.

3.4.The Purposes of Innovations

One expects innovations to be adopted and implemented for the

correction of a deficiency or for effecting improvement in an organizational process and/or outcome. However, what may motivate an organization's actors to adopt a focal innovation may not be so clear-cut. It is likely that actors will seek innovations for different purposes, which may not always relate to the two foregoing reasons. Although innovation purposes may not represent an attribute of innovations, like states of organization, which have been used to categorize innovations from the organization's perspective, they can be used for a classification of innovations from the participants' stand-points.

Downs and Mohr (1979:394) suggested that at least one of the following types of perceived benefits can motivate a given adopter to seek an innovation:

1. <u>Pragmatic benefits:</u> Benefits of increased effective-ness and efficiency in accomplishing externally related goals. Those benefits are often summerized as "profits" in the private sector.

2. <u>Prestige benefits:</u> Benefits of recognition and approval that accrue to the organizations and its members by virtue of their being earlier rather than later adopters of new programs and technologies.

3. <u>Structural benefits:</u> Purely internal benefits such as greater worker satisfaction and better internal relationships.

The first and third benefits appear to be connected with the organizational goals that had already been discussed by Mohr (1973). He had made a distinction between organizational reflexive and transitive goals, relating the former to intra-organizational purposes, e.g. attaining better worker

motivation, and the latter to extra-organizational purposes, e.g., better customers'/clients' satisfaction.

In view of the above, an analogy can be drawn between organizational goals in Mohr's sense and innovations. Innovations can be classified in terms of their inward or outward orientation to be termed <u>reflexive</u> or <u>transitive</u> respectively.

Irrespective of the difference between reflexive and transitive innovations, they are related to some organizational purposes providing pragmatic, public relation, or structural benefits to the organizations and their members. However, prestige benefits appear not to relate to the organizational purposes all of the time, but to certain individual's intent(s), which may be meant to be fulfilled by means of, say, manipulating organizations one way or another.

An innovation, be it a piece of new knowledge, a process, a technical artifact, is explained in terms other than simply its benefits. Innovations are also explained in terms of the use for which they are intended. Pelz's (1978: 347-352) distinction between the three uses of research results suggests a classification of innovations relative to individuals' intent(s). His three suggested uses of research-based knowledge, or "knowledge innovation" in Zaltman's (1979) sense, which can represent three general purposes of innovations in a given situation, are:

1. <u>Instrumental use:</u> Instrumental use involves acting on research results in specific, direct ways.

2. <u>Conceptual Use:</u> Conceptual use involves using reseach results for general enlightenment; results influence actions, but in less specific, more indirect ways than in instrumental use.

3. <u>Symbolic use:</u> Symbolic use involves using research results to legitimate and sustain predetermined positions, for example, substituting the action of the research process itself for other action, or using research results selectively or otherwise distorting them to justify actions for other reasons.

Here the first two uses of research results appear to relate to organizational purposes. The third use however seems to relate more to personal considerations. Besides, as symbolic use implies, innovations may not only be adopted to enhance some individuals' prestige; they, or the processes of their development, may be used for justifying the status quo or for something already decided upon.

Distinguishing between individual and organizational purposes of innovations should not imply that individuals are always in conflict with their organizations, trying to reject, undermine, misuse or distort the innovations suggested within the organizations selfishly. Obviously this is not always the case. Besides, in cases where there is a conflict between personal and organizational goals, this may not always be a bad thing. In fact, the presence of such a conflict may lead the organizational participants to select wiser innovations.

Table (1-1) gives a summary of some of the categories of innovations covered above. However, as it is felt that the

elements which were used for the classification of innovations are more likely to represent the dimensions of all single significant innovations than the dimensions of different innovations, they are also illustrated in combination in Figure (1-2).

Table 1-1. The Categories of innovations.

1- Innovations in terms of their referent
  -Technical   Evan (1966)
  - Administrative/managerial

2- Innovations in terms of their situation
  - Programmed (routine innovations; variations)
  - Non-programmed (reorientation) (Knight, 1967; Normann,1971)
    a) Slack   (Knight, 1967)
    b) Stress

3- Innovations in terms of their significance
  - Radical   (Knight, 1967)
  - Pervasive   (Whip and Clark, 1986)
  - Both Radical and Pervasive   (Wilson, 1967)

4- Innovations in terms of their purpose
  - Externally oriented (transitive)
  - Internally oriented (reflexive)   (Mohr, 1971)
  - Personally oriented   (Downs and Mohr, 1979)

Figure 1-1. The Dimensions of innovation
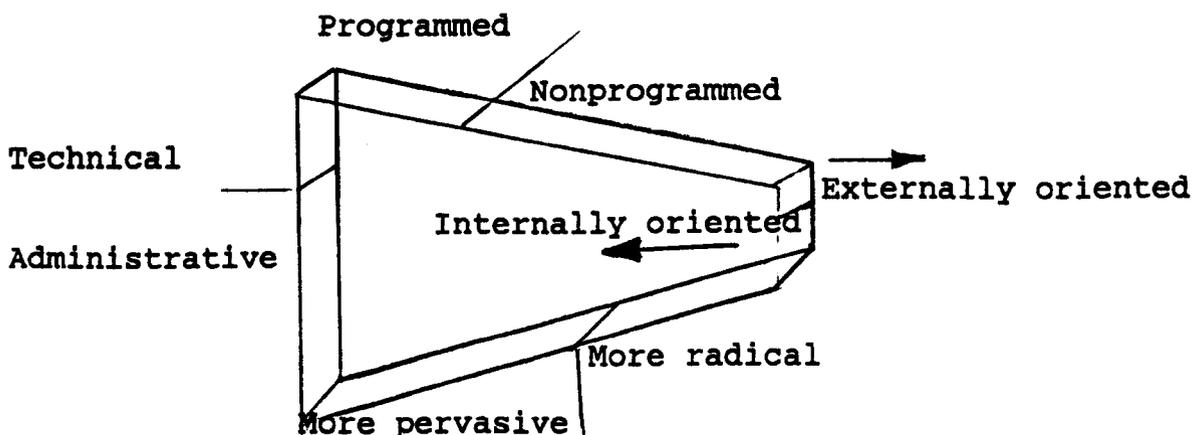
CHAPTER FOUR

The Sources of Innovation

Knowledge for an innovation, which may be acquired exogeneously or endogenously, can stimulate innovation at any time. According to March (1981: 568,569), organizational innovations "...often seem to be driven less by problems than by solutions." Hence answers often precede questions. Therefore:

> ...most organizations face many problems, but possess knowledge of a few innovations that offer solutions. So the chance of indentifying an innovation to cope with a particular problem is small. But if one begins with a solution, there is a good chance that the innovation will match some problem that is facing an organization. Consequently, most organizations continuously scan for innovations, and match any promising innovation found with some problem.

As such, organizations' members' passion for exellence or their "tendency towards indefinite progression" (Tarde, 1903: 366) may be enough to account for innovation. Yet this may not be the sole reason for innovation. It has been suggested that organizations may not innovate simply because of the decision-makers' aspirations for betterment. March and Simon (1958:174) argued that organizations may not seek new ways of doing things when they are already satisfied, or "satisficed", with the current state of affairs. Winter (1971:245) also maintained that firms are unlikely to change their existing rules if they thought they were functioning well already.

Knowledge utilization authors (e.g Havelock and Benne, 1969),

though inclined to place knowledge and its development at the outset, do not deny a problem-solving approach, that gives the problem primacy. Weiss (1977) noted clearly that utilization processes could take different sequences: those that are "knowledge-driven" (information in search of a user), those that are "problem-driven" (a need in search of a solution), or those that involve a reciprocal dialogue between a user system and a resource system.

According to the well-known adage "necessity is the mother of invention" a need or a problem comes first. Although it says a need is a source of invention, the need can be seen as a source of innovation also. Invention is different from innovation, of course, because, as it has been suggested (Rogers and Shoemaker, 1971), the former is creating something new, whereas the latter is putting it to use. However, because it may not make much sense to create something that does not serve any purpose at all, it is fair to extend the saying to innovation as well.

Having suggested that there can be a need that may call for an innovative response, it should be made clear how a need for innovation may arise. But before doing so, it should be emphasized that innovation in organization is the focus of this study; hence we will proceed by reviewing some possible sources of a need for such a change in organization.

Innovation is most likely to be needed when, using Rogers and

Shoemaker's (1971) words, a major discrepancy occurs between "wants" and "gets" in the form of a problem. By the same token, a need may arise for innovation in organization when all or some of the organization's stakeholders (e.g. members, customers, government, etc.) either perceive a deficiency in, or expect an improvement on, the mode(s) of functioning and/or outcome(s) of the organization, and will want their expections to be realized. The discrepancy between actual performance and the expected performance that calls for an innovative response will be referred to as performance gap. (cf. Downs, 1967: 191).

We may start enumerating the possible sources of a performance gap by putting the awareness of an innovation at the beginning again. However, we can do so by looking at it from a problem-solving perspective this time. Needless to say, awareness of a new course of action will not affect performance per se, yet it may affect the performance criteria. It is possible that knowledge of a new alternative will lead to the choice of new satisfaction criteria which may, in turn, result in perceiving the present performance in at least one domain of organizational tasks as deficient. This may, in turn, lead to innovation (cf.Zaltman et. al., 1973). Apart from knowledge-awareness of an innovation, changes both inside and outside the organization can lead to a shift in the satisfaction criteria and thus result in the current level of performance appearing to be below a new standard, or they may just create a performance gap directly.

That boundaries between organizations and their environments may not be sharply drawn is acknowledged. Yet for ease of disposition, some of the factors that may lead to a performance gap are identified both inside and outside organization to be discussed as follows.

4.1.Internal Factors:

4.1.1.Natural Wastage and Turnover: Whereas some members leave organizations, retire, are laid off, others join in, get promoted or change status. Occupation of postions by new personnel with expectations different from those of the previous occupants may result in different criteria of satisfaction to be developed. Although no change may occur in the formal role structure of an organization before, during, or soon after some postions are occupied by the new members, yet, as they are likely to define performance criteria differently, methods of functioning may change. Alternatively, present activities may be geared towards different goals by them. This kind of change is, of course, more likely when changes refer to the occupants of the key positions. Changes occuring in organization performance as a result of personnel turnover have been noted by previous authors. For example, Boulding (1963) indicated:

> The inevitable succession of persons in the top roles brings changes to the character of an organization that are the result of the personality of occupants rather than that of the role structure itself. ...where the occupants of top roles are drawn from a small, self-perpetuating oligarcy, the character of the organization is likely to be stable.... Where, however, the occupants of top roles are selected by processes in which change plays a large role, it is quite possible for

the role to be occupied by a succession of very different personality types, each of which will give his distinctive stamp to the role, and therefore, to the whole organization (pp. 156-57).

4.1.2. Members' Dissatisfaction: Strikes, go-slow, sabotage,

etc. which can result, say, from low wages may hinder an organization from performing as well as it was expected to. Rostow (1948) attributed the deteriorating condition of business to inflexibility of wages in Britain. This situation was reflected in unrest and strikes by factory workers, which led to the development of new, less labor intensive, ways of doing things.

4.1.3. Complex Technical Changes: Introduction of complex

techniques may create a feeling of alienation and power-lessness among organization members if they were not prepared for the techniques already. Although organization members may not try to overcome their feelings by unrest, yet the time they require to cope with the demands made on them by the changes may prevent the techniques from producing what was expected. This may lead to a performance gap.

4.1.4. Incremental Change in Technology: Improving just one

component of a multi-component technological artifact may result in a performance gap. Improved design of an automobile engine achieving a higher speed would adversely affect the sale of automobiles. Unless a more reliable braking system had been developed to allow the users to benefit from the higher speed of the new engine safely, the performance gap which was in fact

created by the improvement of the engine could not have been corrected (Rosenberg, 1970).

4.1.5. Improvement in the Outcome of One of the Organizational Units: If all organizational units perform at relatively the same level, improvement in the performance of just one unit may adversely affect the overall performance of the organization. Increased output in production, without commensurate increase in sales and marketing activities may be detrimental to the whole organization.

4.2. External Factors:

4.2.1. Natural Events: A hurricane, flood, volcanic eruption, earthquake and other destructive eventsmay cause a performance gap for more than just one organization. However, a factory lacking in safety provisions is highly vulnerable to events that may not be very destructive otherwise. Accordingly, a fall of rocks, for example, on the site of a company can bring about a performance gap; not only because of the damage that that event may cause, but for the bad public image that it may convey as well.

4.2.2. Changes in the Power Setting and/or Legislation: Changes in the political setting of organizations may change the criteria of performance for them. The significance attached to industrialization in China was attributed to the power changeover which was due to the communist revolution in that

country (Skocpol, 1976). Failure to understand the new stakeholders' satisfaction criteria would confront organizations with some deficiency in the way they performed. Moreover, failure to comply with legislation such as new safety rules can render some organizations' performances deficient. Therefore, all auto producers in the UK had to install safety belts in this country in the 1980's as this was required of them by law.

4.2.3.Competition: An improvement or variation introduced by one member of a population of organizations may make the other members' performances look deficient. Hence, a change introduced by Ford was countered by GM so that it remained competitive, at least, in relation to its rival (Sloan, 1986).

4.2.4.Customers/Clients and Suppliers: Customers/clients' loss of interest in some goods or services can also lead to a performance gap. A reduction in supplies of materials or services, as a result of, say, diversification or change of policy may have the same impact on organizational performance.

4.2.5.Changing Values in Society: Changing values in social settings make demands on organizations to adjust accordingly. Failure to cope with those demands can be another source of a performance gap. A study of long range planning and organizational change during a five year period in twenty Swedish companies and public service organizations indicated

that the strategic problem facing those organzations was not technological nor economic in nature. According to this research, the difficulty was that of matching the values and attitudes within the company to the values and attitudes in the organization's environment. Moreover, the main obstacle to innovation lay not so much in internal barriers to change as in top management's insensitivity to the environment (Rhenman, 1973).

A public opinion survey in the U.S. indicated that in 1960 most people felt that business competition could be an effective mechanism for controlling prices, but only a decade later the public favoured the Government's intervention for price control (U.S. Opinion Research Corporation, 1973). Shifting preferences reflect changes in values; several studies have illustrated changes in public values in Britain as well. (For a summary of some of the studies see, Purdie and Taylor, 1976).

4.2.6.General State of the Economy: The general state of both the national and the international economy can give rise to a performance gap. When economic conditions become less munificent, organizations are very likely to confront a performance gap. A report on registration and failure of companies in the UK (Companies in 1977) includes the oil crisis in 1973 as one of the reasons for economic decline which in turn led to more failed organizations in this country. Some possible sources of a performance gap, that are discussed are also summarized in figure 1-2.

Figure 1-2. Some Possible Sources of a Performance Gap
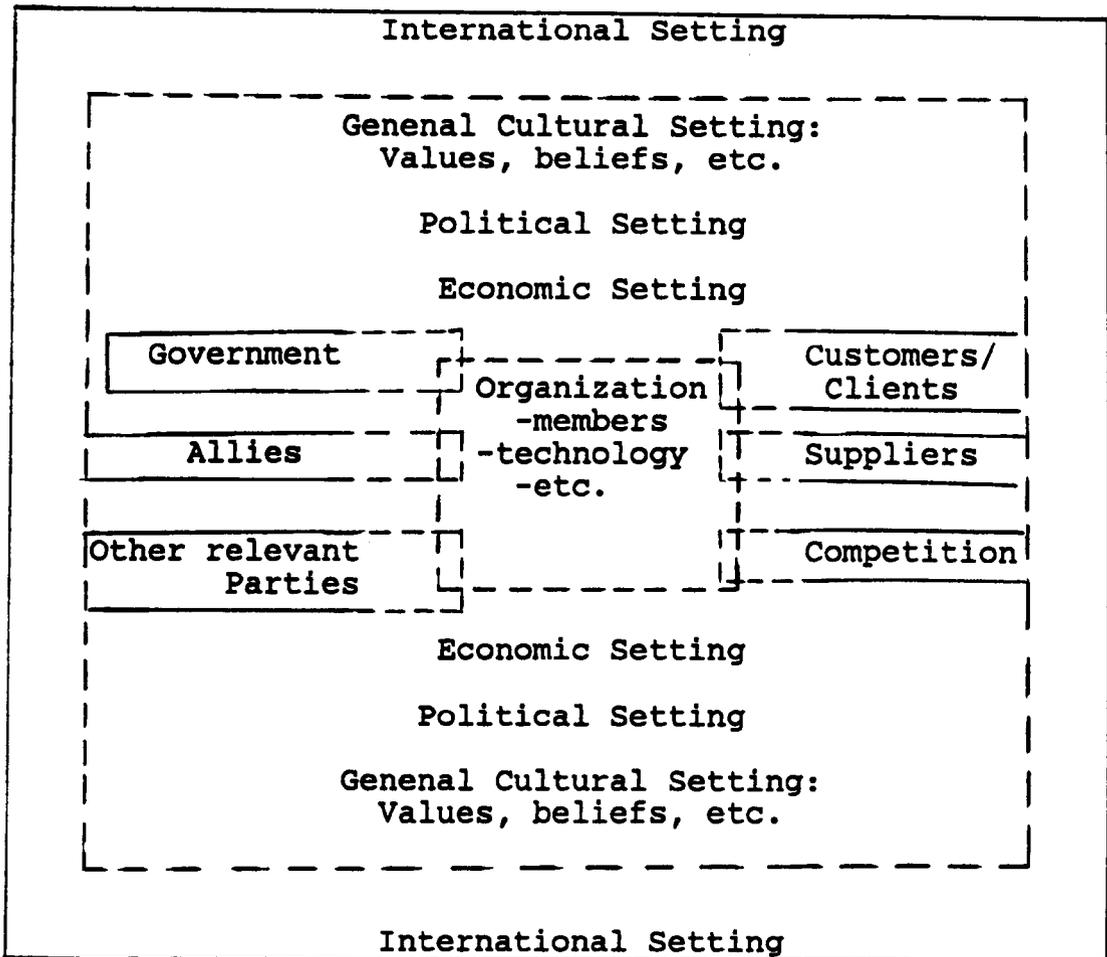
The possible sources of innovation suggested above have been considered in isolation. Not only that, organizations may not always respond to the problem situations by adopting a strategic innovation, with which we are concerned. Nor may such a response be always a wise one. Hence the above events may be merely a source of some incremenatal changes in the organization as it develops. But the changes mentioned above and/or the incremental responses they receive may accumulate, to be themselves a source of a performance gap to which the answer may be a "quantum leap" (Miller and Frieson, 1984). The

process(s) where this may occur can be understood better if
they are seen within the context of the organizational life
cycle. This process of development of organizations can also
indicate <u>when</u> the organizations may respond to the above forces
by an attempt at innovation. We should therefore turn to some
models of development, evolution, or transition of organization.

4.3.Organizational Life Cycle

Based on his study of phases of the growth of organizations,
Greiner (1972) identified five major dimensions which he
regarded as characterizing organizational development. He
enumerated them as: 1) age of organization, 2) size of
organization, 3) stages of evolution 4) stages of revolution,
and 5) growth rate of the Industry. It was indicated that each
one of the elements influence all the others and their
interactions display a dynamic picture of orgnizational growth.
Figure 1-3. illustrates the combined effect of the said
elements.

<u>Evolution</u> was defined as the period of prolonged growth with no
major changes occuring in organization practices and <u>revolution</u>
as periods of major upheavals in organization life. In
describing orgnizational phases of growth Figure 1-4, it was
maintained that "each evolutionary period" is characterized by
the <u>dominant management style</u> used to achieve growth, while
"each revolution period" is characterized by the <u>dominant</u>
<u>management problem</u>." It was also noted that "each phase of

Figure 1-3. Model of Organization
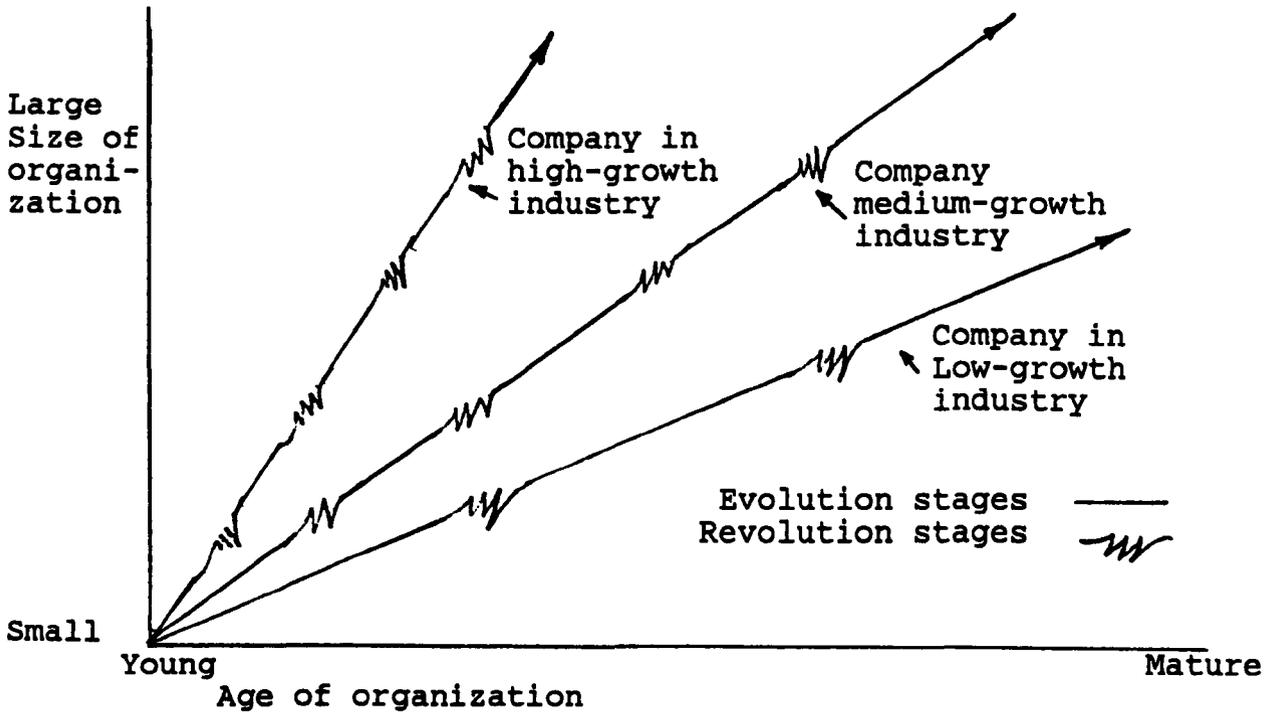
(From Greiner, 1972:37)

revolution and evolution is both an effect of the previous and a cause for the next phase." (p. 41) Organizations that do not grow in size retain the same management style and issues. Yet contextual changes may still force them to introduce dramatic changes along their life span at different times. Periods of evolution may be prolonged and revolutions may be delayed according to the intensity of external forces.   A company's process of revolution may come about in shorter periods of time in a "high growth industry" than in a "low growth industry".

Figure 1-4. The Five Phases of Growth
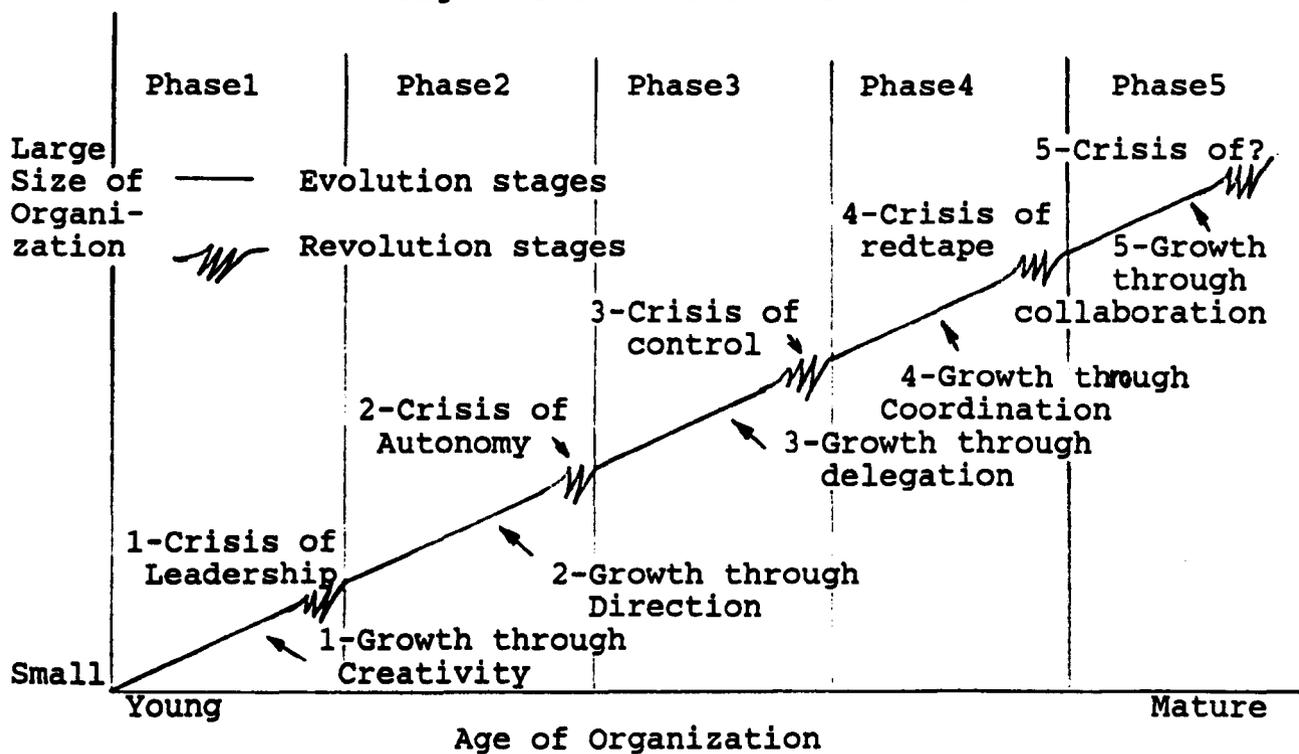
(From Greiner, 1972:41)

Tushman and Romanelli's (1985) theoretical study of organizational evolution supported Greiner's theoretical perspective of the overall process of development of organizations, albeit with some exceptions. Their model of organizational evolution consisted of three major elements:

> 1)process of <u>convergence</u> which operate, through the complex of socio-political and technical-economic activities that support a firm's overall strategic orientation; 2) <u>periods of reorientation</u>, wherein patterns of consistency are fundumentally reordered toward a new basis of alignment; and 3)<u>executive leadership</u>, which serves as the key mechanism of intervention.(Tushman and Romanelli, 1985:174) [emphasis added]

Re-orientations would develop into <u>re-creations</u> if they involved "a discontinuous shift in the firm's core values and beliefs."(P.179) Table 1-2. gives the hierarchical relation-

ships among activity domains defining reorientation and recreation.

Table 1-2. A Hierarchy of organizing activities

Core Values (customer,

     competion,technology,employees)

                                                      Re-creation

Strategy (product, market,

       technology, competive timing)

Distribution of Power   Reorientation

Structure

Controls
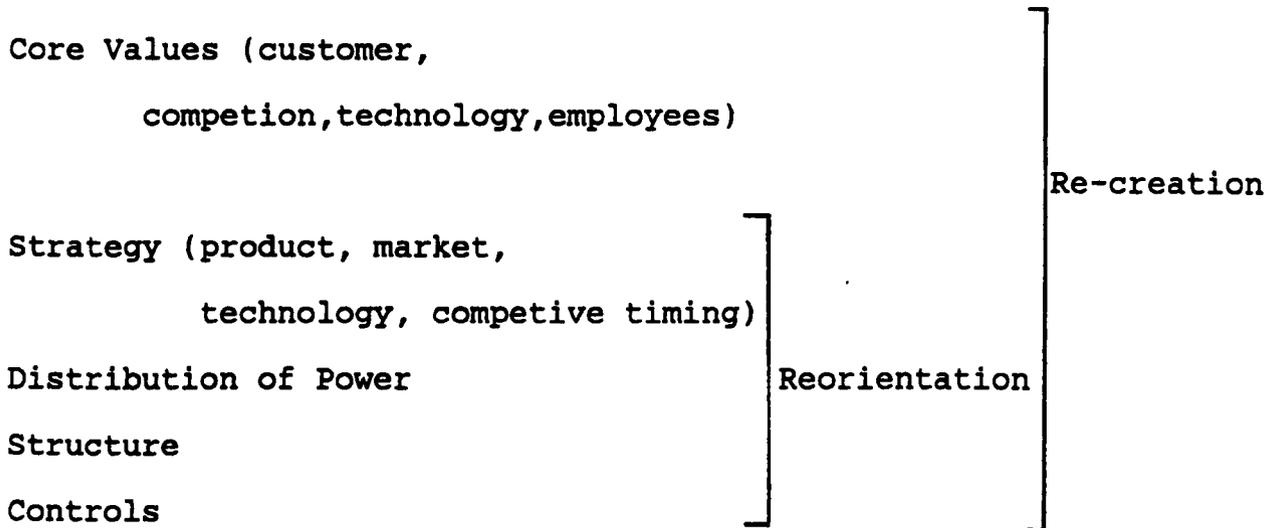
(From Tushman and Romanelli, 1985:179)

Tushman and Romanelli's model implies that management may intervene to improve a process or product in the midst of one of the convergence processes by introducing an innovation which will involve a focal organization in a period of reorientation. Although this may be true, if it is also accepted that managements may not innovate when they are already satisfied with the current state of affairs (p. 31), it can be concluded that innovation is most likely in the periods of reorientation or revolution, if they are not caused by innovations already. Because these are the periods when problem situations or performance gaps may be perceived by management, innovation is

more likely.

Both the stage and metamorphic models of organizational evolution, mentioned above, have indicated that internal and external inertial forces drive organizations from the processes of either evolution or convergence towards periods of revolution or reorientation. However, the metamorphic model does not regard organizational evolution as following a standard set of stages, because "organizations may reach their respective strategic orietations through systematically different patterns of convergence and reorientation." (Tushman and Romanelli, 1985: 208).

As to the length of each period of convergence in the metamorphic model, it is attributed to the level of organizational performance. High-performing organizations may have longer and less turbulent convergent periods than low-performing organizations. However, as was noted above, Greiner believed "evolution" processes would be shorter in the firms in high growth industries.

The organization models' above elements, which contradict each other, imply that high-performing organizations either only rarely innovate or do not belong to high growth industries. They otherwise suggest that organizations in low growth industries innovate more thoughtfully. They have more time to integrate one innovation into their systems before embarking on another innovation. It also seems justifiable to attribute the

viability of high-performing organizations in low growth industries to their innovativeness. Hence organizations in low growth industries may be high-performing because they innovate more frequently than their rivals. These are empirical questions to which future work may provide an answer. Yet one may also conclude that a reliable model of the development of organization is yet to be developed and/or that generalizations across industries can be problematic.

Implicit in some models of organizational evolution is the assumption that organizations grow and are diseased in a manner similar to biological systems. Even terminologies related to mans' life cycle have been used to explain each phase of an organization's span of life (For example, see: Kharbanda and Stallworthy, 1985: xiv).

However, Tichy (1981) questioned this assumption reminding us that laws of social systems are different from those of biological systems. Arguing that organizations have three interrelated cycles, he maintained that "These cycles are not based on maturational processes but on the dynamics of social systems surviving and making adjustments in various contexts."(P.165) These adjustments are made as an organization endeavours to resolve three basic ongoing dilemmas. Each dilemma is caused by a different kind of problem. These problems are referred to as "technical design", "political allocation" (allocation of power and resources), and the "ideological and cultural mix."

Because shifts and changes occuring both inside and outside an organization are ongoing, these types of problems are never resolved. Therefore, organizations are always faced with one, two or all three problems which unfold at different points in time. As such an organization may be forced to produce a different output to resolve the technical problem. It may have to reallocate power and resources so that the second problem is responded to. Finally it may be impelled to bow to different values and beliefs so the third problem is addressed.

Conceptualizing adjustment in each of these problem areas in terms of a cycle, Tichy (1981:165) asserted that "All three cycles overlap and interact with each other in ways that may be beneficial or problematic for the organization." The three adjustment cycles have been illustrated graphically (Figure 1-5) in terms of peaks and valleys. A peak and a valley in one of the three problem areas represent a high need, or no need, for adjustment respectively. The left axis represents both the tension created by a problem and the need for resolving it.

Although the figure illustrates organizational problem cycles with the political cycle at the peak, it is indicated that an organization may start with any one of the cycles at the peak. Furthermore, it is pointed out that resolution of a problem along one of the cycles may cause one or more of the other problem cycles to peak.

It is true that a political, cultural, or technical problem may not always be responded to by an innovation, yet it is clear that the peaks in each cycle represent a performance gap. If old practices, whose effects are to be reflected in actual performance, were adequate in accomodating internal as well as external changes, no cycle might ever peak. We are therefore justified in concluding that each peak in a problem cycle, like the periods of both revolution and reorientation, is indicative of a discrepancy between actual and expected performance.

Figure 1-5. Organizational Problem Cycles
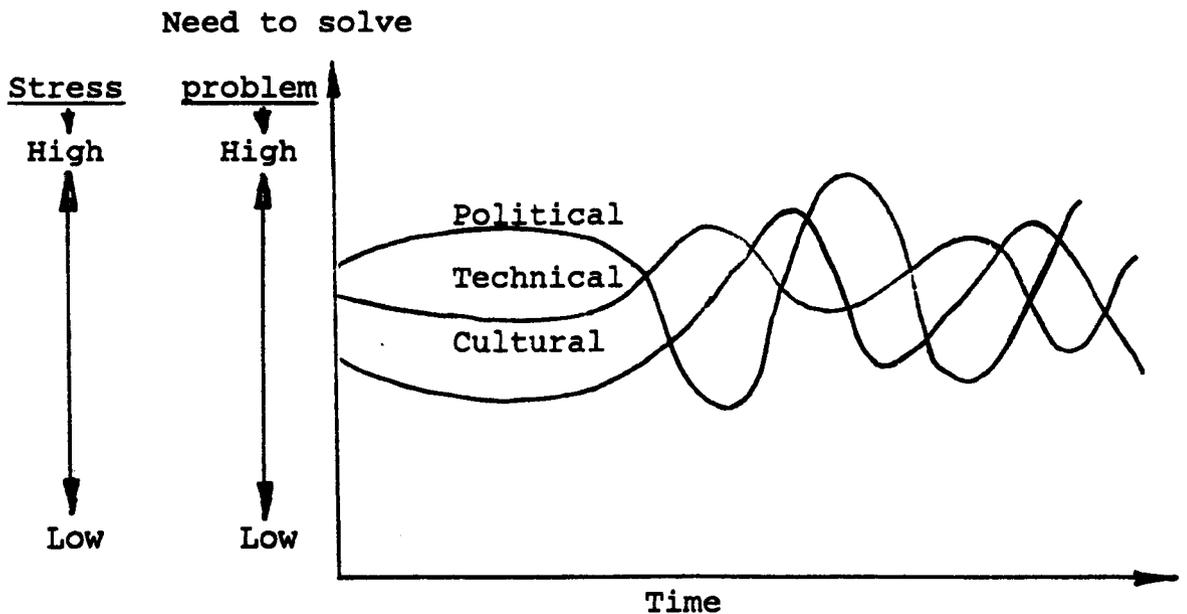
(From Tichy 1981: 166)

Looking at processes of development of organizations solely

from a "problem-solver perspective" (see Ch.5) and irrespective of variations in assumptions underlying organizational models, organizational life, in general, can be seen as characterized by two major periods. The periods when small changes such as personnel turnover, etc. take place and build up gradually around one or more issues. And the periods when the cumulative effect of the small changes result in grave problems and hence in a serious performance gap. The latter periods will be the time when innovations may be most needed if organizations are to survive and prosper.

CHAPTER FIVE

The Processes of Innovation

Unlike some authors (e.g. Carroll, 1967; Schon, 1967; Kanter, 1985; Van De Ven, 1986), some other innovation analysts (e.g. Rogers and Shoemaker, 1971; Gordon et al. 1975; Kimberly, 1981; Delbecq and Mills, 1985) did not conceptualize innovation as a process. The latter saw innovation as a discrete service, product, and/or programme (see Appendix A). These analysts, however, do not reject that processes are involved in innovation. Accordingly, they sometimes talk about innovation decision process (e.g. Rogers and Shoemaker, 1971) or about diffusion, adoption, and implementation processes (e.g. Kimberly, 1981). Sometimes they just treat innovation as a process without having defined it as a process first (Delbecq and Mills, 1985).

Whatever the sources of innovation scholars' ostensible dissensus over the processuality of innovation, we will treat it as a process. Even if it is seen only as a mental process, representing or being reflected in a decision-making process, this is still true. If it is an action or a set of actions, again it is a process because action is, in all likelihood, a process (Parsons, 1951). It is obvious that if innovation is a combination of both decision(s) and actions(s), it is again a process simply because the cumulation of two or more processes is still a process, though it may be a lengthier one.

49

Regarding innovation as a process will lead us to attend to some process models, which are universally conceptualized as containing some stages, sub-stages, or sub-processes. Whether they are called innovation decision models, or stage models, or whatever, several of them are subsumed under the broad title of this Chapter.

Literature suggests that the stages that may be involved in an innovation process are normally determined by some particular elements. We will therefore proceed by discussing these before attending to the stage models themselves.

5.1. General Determinants of Stages in the Processes of Innovation

The perspective from which one looks at a change process has a bearing on what one may see as the stages of that process. Havelock's (1969) exhaustive review of planned change literature identified three perspectives, namely (1) Research, Development, and Diffusion (R,D&D), (2) Social Interaction (S-I), and (3) Problem-Solver (P-S).

The R,D&D model represents a situation whereby a research body formulates an answer to a problem "on the presumed user need" for a solution. The solution it offers may be then tested and presented to a potential user by a "developer". The S-I perspective indicates a situation whereby a developer or an

innovation broker presents a potential user with an item of research-based knowledge or an innovation which is already available. The P-S paradigm illustrates a situation whereby an individual or a group identifies a problem for which he/they may want a solution from a "developer" or an innovation broker.

By looking at a change process from these perspectives, one can see variations in the nature, number, and sequence of the stages that can be involved. Some of these variations can be seen in the models that are offered in this Chapter. Besides, they have been dealt with extensively by Havelock (1969) and others. Hence rather than attending to these perspectives as determinants of a stage model, we will turn to a few other elements that have been regarded as significant in determining an innovation process. We will look at the the <u>unit</u> <u>of</u> <u>adoption</u>, and <u>the</u> <u>object</u> <u>of</u> <u>adoption</u>.

<u>5.1.1.The Units of Adoption:</u> Unit of adoption has been singled out as an important determinant of the stages in the innovation process. Units of adoption require attention because different types of innovations may require different units of adoption and also because different cultural or situational norms may necessitate different units of adoption. Where the unit of adoption is an individual, some of the stages that may be present in the innovation process at the organizational level may be irrelevant. The organizational innovation process, however, may be lacking in some stages while containing some which would be redundant when applied to a

community as an adoption unit.

Katz (1962) identified three units of adoption; individual, organization, and community. He indicated that some innovations can only be appropriate for a certain type of adopting unit. For example, while a new car can be adopted by one individual, acceptance of a telephone system by one person, as the adoption unit, will be meaningless. Automation will certainly be more relevant to a factory while vaccination will have to do with a community. According to Glaser et al. (1983) the introduction of a modified national energy programme can be expected to proceed through greatly different stages from those that may be involved in the introduction of a new commercial product, because of the different adoption units that are involved.

Although the earlier stage models of innovation were mostly developed relative to individual adopting units (see Rogers and Shoemaker, 1971) the necessity for the analysis of innovation in relation to other contexts has been emphasized. Hence several models have been developed relative to different adoption units. In the following paragraphs, three of them that relate to individual, community, and organization will be discussed. The individual model is believed to be relevant because this seems to have been the basis of most of the innovation stage models that have been associated with collectivities.

<u>5.1.2.The Object of Adoption:</u> The literature on the stages of innovation implies that the stages in the process are influenced by the type, or more generally the category, of innovation. But despite the explicit or implicit indications that stage models differ according to various classes of innovations, the stage models that have been offered thus far have been mostly confined to technical innovations. That almost all theories have been concerned more with major technical and/or organizational innovations in ordinary situations may account for the scant attention that has been paid to the stage models for minor innovations in, say, distress situations. If, however, "authority innovation decision" (see 5.2.2. below) were to represent, among others, the adoption of innovation for personal purposes, Rogers and Shoemaker's (1971) work would then stand out as one of the few attempts that conceptualized innovation relative to its purpose, in the sense this was addressed in the discussion of the innovation categories above.

With the above two sets of elements in mind we shall discuss some stage models of innovation. The choice of the models is guided by the stages that have been identified with respect to the units of adoption and the objects of adoption.

Although the examples that are to be given under one title will be different from those offered under the other, not all of the models are mutually exclusive. Hence, a process paradigm concerning <u>knowledge utilization</u> in organizations as the

adoption unit can very well appear under the title "stages in terms of unit of adoption". Acknowledging the interchange-ability of some of the examples, attention is drawn to the purpose of this classification, which is the clear elicitation of the two general elements that are said to affect the stages in the process of innovation, i.e. the unit of adoption and the object of adoption. Nevertheless, care is taken not to repeat the examples, so that if the process to be explained belongs to a technical innovation in an organization, it will be discussed under the title "stages in terms of the object of adoption", though this can obviously be also subsumed under "stages in terms of the unit of adoption".

5.2.Stage Models in Terms of the Unit of Adoption

5.2.1.Paradigm of Individual Innovation-decision Process: The oldest of diffusion traditions, anthropology, was concerned with innovation in communities. However, the earlier stage models were developed not by anthropologists relative to communities, but by the students of early and rural sociologies with an interest in individuals as units of adoption (for a relatively detailed treatment of this point, see Rogers and Shoemaker, 1971).

A number of earlier researchers (e.g. Rogers, 1962) had indentified five stages in the pocess: (1) knowledge-awareness (first knowledge of the new idea), (2) interest (gaining further knowledge of the innovation), (3) attitude formation

(gaining a favourable or unfavourable attitude toward the innovation, (4) initial trial, and (5) adoption or rejection decision. Later Rogers and Shoemaker (1971) offered four stages:

1) <u>Knowledge-awareness</u>: This is the time when the individual has been informed of the idea and has gained some understanding of how it works.

2) <u>Persuasion</u> (attitude-formation): This is the stage when the individual forms a favourable attitude toward the innovation

3) <u>Decision</u> (adoption): This is the stage when the individual engages in activities which entail a choice to adopt or reject the innovation.

4) <u>Confirmation</u>: This is the time when the individual seeks reinforcement for the innovation-decision he has made, but he may reverse his previous decisions if exposed to conflicting messages about the innovation.

Table (1-3) gives some stage models of innovation in terms of individual as the unit of adoption.

5.2.2.Paradigm of Collective and Organizational Innovation Decision Process:

One of the earlier paradigms in this category belongs to Rogers and Shoemaker (1971). They distinguished among five stages, which they conceptualized as sub-processes. These were explained thus:

Table   (1-3).   Summary   of   individual-oriented   models   of innovation

Lavidge & Steiner (1961)	Rogers (1962)	Colley (1961)
Awareness	Awareness	Unawareness
Knowledge	Interest	Awareness
Liking	Evaluation	Comprehension
Preference	Trial	Conviction
Conviction	Adoption	Action
Purchase		

Klonglan & Coward(1970)		Robertson(1971)	Zaltman & Booker (1971)
Awareness		Problem Perception	Perception
Information		Awareness	Motivation
Evaluation	Symbolic rejection	Comprehension	Attitude
Symbolic adoption		Attitude	Legitimation
		Legitimation	
Trial	Trial rejection	Trial	Trial
Trial		Evaluation	
Acceptence		Adoption Rejection	Adoption
Use adoption		Resolution	Dissonance

(From Zaltman et al., 1973: 19)

1) <u>Stimulation</u>: This is the subprocess whereby a stimulator, who is either an outsider to the social system or an insider with an external orientation, recognizes a problem in the social system or feels there is a need for a change, thereby stimulating the participants to seek a new idea of which he may not be the source himself.

2) <u>Initiation</u>: This is the subprocess whereby the idea suggested by the stimulator(s) receives increased attention by the members of the social system. Initiators incorporate the innovation into a specific plan of action that is adapted to the specific conditions of the system.

3) <u>Legitimation</u>: This is the subprocess whereby the innovation is screened for approval.

4) <u>Decision</u>: In this subprocess members decide whether to execute the innovation or not. Their decision may be based on the result of a referendum, petitions that may be circulated or public meetings that may be held.

5) <u>Action</u>: In this subprocess the innovation will be executed if the decision has been in favour of this.

The foregoing is a general model that was meant to embrace the stages of the innovation process in a community, organization, or in a family setting. But there have been attempts by others to conceptualize the stages at the organizational level.

Having analysed several models exaustively, Zaltman <u>et</u> <u>al.</u> (1973) proposed an organizationally oriented paradigm of

innovation process which, unlike previous ones, captured more elements at the end point, the implementation stage. Their model included two broad stages each consisting of three and two substages respectively. The first stage was called the initiation stage and contained such substages as (1) knowledge-awareness, (2) attitude formation toward the innovation, and (3) decision as to the adoption or rejection of the innovation. The second stage was referred to as the implementation stage and comprised such substages as (1) initial implementation, and (2) continued-sustained implementation. Table (1-4) summarizes some models of the innovation process in connection with the organization as the unit of adoption.

Implicit in most of these models is the assumption that the individuals, who are involved in the innovation situations, enjoy a considerable degree of latitude in deciding upon the innovation. However, Rogers and Shoemaker (1971) noted that there are instances when an individual (or other adoption unit) is ordered by some one in a position of higher authority to adopt or reject an innovation. When such is the case, according to Rogers and Shoemaker, an authority innovation decision will represent the situation.

According to these authors, the innovation process in authority decisions would be different from the process in optional decisions. The reason for the difference is the existence of two units; the unit that makes the innovation-decision (i.e.,

the decision unit) and the one that has to implement it (i.e., the adoption unit). Therefore, the decision unit will have to communicate the new idea to the other unit as soon as a decision is made as to its implementation. Stages of the innovation process in authority and optional innovation-decisions with respect to the units of adoption are depicted in table (1-5).

Table (1-4). Some organization-oriented models of innovation

<u>Wilson (1966)</u>   <u>Shepard (1967)</u>   <u>Hage & Aiken (1970)</u>

1-Conception of Change 1-Idea Generation   1-Evaluation
2-Proposing of Change   2-Tentative Adoption 2-Initiation
3-Adoption and   3-Implementation   3-Implementation
   Implememtation   4-Routinization

<u>Milo (1971)</u>   <u>Zaltman et al.(1973)</u>   <u>Rowe & Boise (1974)</u>

1-Conceptualization I-Initiation Stage   1-Knowledge
2 Tentative Adoption 1.Knowledge-awareness   Accumulation
3-Resource Getting   2.Formation of attitude 2-Formulation (of
4-Implementation   toward the innovation   the innovation)
5-Institutional-   3.Decision   3-Decision
         ization   II-Implementation Stage   4-Implementation
                      1.Initial
                         Implemetation   5-Diffusion
                      2.Continued sustained
                         Implemetation

<u>Rogers (1983)</u>   <u>Delbecq & Mills (1985)</u>

I-Initiation   1-Idea Generation
   1.Agenda-setting   2-Preliminary Analysis
     (problem identification)   3-Decision to Adopt
   2.Matching (a problem   4-Implementation
     with an innovation)
II-Implementation (decision to adopt)
   3.Redifining/Restructuring (the innovation
     to fit the problem situation better)
   4.Clarifying (the relationship between
     the innovation and the adopting unit)
   5.Routinizing

Table (1-5). Stages in Authority and Collective Innovation
            Decisions

Authority Innovation Decisions	Collective Innovation Decisions
1 - Knowledge	1 - Stimulation
2 - Persuasion	2 - Initiation
3 - Decision	3 - Legitimation
4 - Communication	4 - Decision
5 - Action	5 - Action

(From Rogers and Shoemaker, 1971:306)

5.3. Stage Models in Terms of the Object of Adoption

Since two types of innovations were identified to be labelled as
technical (physical artifacts) and non-technical (with
non-physical manifestation), organization and management
theorists have tended to believe that at least some of the
stages in the process of technical innovations must be
different from some of those in the process of non-technical
ones. Some stage models that have emerged from empirical
studies of technical innovations differ slightly from non-
technical innovation process models. However, only a few
theoretically-based models have been developed to relate
clearly and distinctively to either type of innovation.
Because the empirically-based models are normally contextually
bound, generalization from them is rather problematic.
Moreover, in the theoretical models concerned with the two
types of innovation, the differences between the stages often
appear to be more a matter of variations in terminologies
rather than factual variations in the stages. (for example,
compare Beyer and Trice, 1978 and Beyer and Trice, 1982)

It is, therefore, difficult to distinguish between the

processes that have been associated with the two classes of innovations. Nevertheless, care is taken to display the models that may convey any likely difference that may exist between technical and non-technical innovations in terms of the stages that may be involved in their respective processes. Despite this care, the stages seem complementary rather than delineating any difference between the two types of the processes. This is so because the first model, whose initial component (i.e., the component that is concerned with the development of the innovation) might better illustrate any possible difference between the processes of the two types of innovations, is conceptualized as occuring in the producer's system. However, the second model, which is related to a non-technical innovation, is conceptualized as occuring in the user's system.

5.3.1.Stages in the Technical Innovation Process: A recent model of technical innovation was advanced by Tornatzky et al. (1983: 20). They distinguished between the process of innovation in the technology producer's system and that of the consumer's, and indicated that technology may be produced as some variant on the following pattern in the producer's system:

1) Basic research

2) Applied research

3) Development

4) Testing or Evaluation

5) Manufacturing or Packaging

6) Marketing or Dissemination

They also stated that as the stages proceed, the innovation becomes more specifically defined so that it is clearer what the innovation is and what it is not.

The second model that they proposed from the user's perspective consisted of such stages as awareness, matching/selection, adoption/commitment, implementation, and routinization (Tornatzky et al. 1983: 22). According to these authors, a researcher's purposes and interests, rather than the reality of innovation, tend to determine a model and its stages. Hence a difference in the researchers' terminologies may be a major source of variations in the stages listed, as there is no universally accepted terminology to define them.

5.3.2.Stages in the Knowledge Innovation Process: The model which will be dicussed is not selected on the assumption that its referent is necessarily less technical than the innovations with physical manifestions. Nor is it selected on the assumption that it may not apply to innovations with physical manifestion. Rather it is selected because the authors who proposed it distinguished it from the so-called technical innovations, which are normally related to physical artifacts, by associating it with research result utilization, soft, or "knowledge innovation", in Zaltman's (1979) sense.

Although analyses of knowledge utilization and its process are not new (for example, see Havelock and Mann, 1968; W.J. Duncan, 1972, and for a synthesis of material see Bikson,

1980), a rather exhaustive stage model of research result utilization process has been recently developed by Beyer and Trice (1982). They conceptualized the process from the utilizer's perspective. Their model comprised two general phases, each of which includes several stages (Figure 1-6).

Figure (1-6). A hypothetical paradigm of a highly rational and complete utilization process

Adoption Phase: Implementation Phase:

Sensing   Institutionalization
   ↓   ↑
Search   Commitment
   ↓   ↑
Affective Reaction   Evaluation
   ↓   ↑
Selection   Use
   ↓   ↑
Adoption   Receptivity
   | ↑
   └──────────────────→ Diffusion
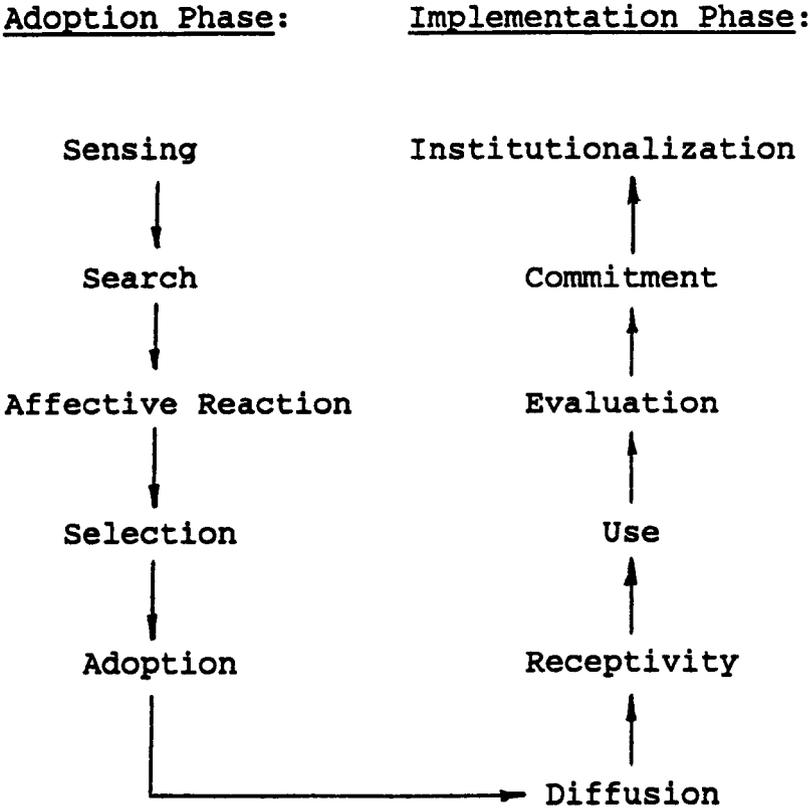
(From Beyer and Trice, 1982:596)

In the adoption phase "(1) a potentially useful research result is sensed, (2) a research for additional competing or confirming prescriptions and information occur, (3) positive and negative feelings about the relevant prescriptions and information occur, (4) the alternatives are weighed and some prescriptions or their parts are selected as more useful than others, and (5) a choice is made and formally adopted. At this point, another part of the organization may be assigned the job of implementing the prescription that has been adopted by decision makers (Duncan, 1976)." (Beyer and Trice, 1982:596)

A rational and complete implementation phase, which might ensue, would include "(6) the diffusion of information to involved actors, (7) their attitudinal reactions expressed in relative degrees of receptivity to the prescription, (8) actions taken to use the prescription, (9) an evaluation of its effects, (10) the generation of more or less commitment to its continued use, and (11) the institutionalization of the prescription into on-going social processes within the user system, provided commitment is positive." (Beyer and Trice, 1982: 597)

These authors further noted that the utilization process may not proceed in a rationally ordered manner; the stages in each phase may be omitted, repeated, etc. Hence, they suggested a model to illustrate a less rational process (Figure, 1-7).

According to this model, "(1) a single actor, having learned outside the organization about a prescription derived from research, liked the prescription, (2) used it and (3) became committed to its use. Meanwhile, elsewhere in the organization, other actors (4) received information of what the first actor was doing, (5) evaluated his or her actions unfavorably, (6) searched for competing information but, failing to locate easily any information supporting their negative evaluation, took no further action toward discontinuing use of the prescription." (Beyer and Trice, 1982: 597)

Figure (1-7). A hypothetical example of a less rational and complete utilization process

Implementation
        Phase: Receptivity —— Use —— Commitment
Adoption Phase: Sensing —— Evaluation —— Search

(From Beyer and Trice, 1982: 596)

CHAPTER SIX

The Determinants of Innovation

Mohr (1969) and others have indicated that such factors as individual, organizational, and environmental may determine innovation. The influences on innovation of these factors have been studied by several authors (e.g Hill and Harbison, 1959; Stinchcombe, 1960; Browing, 1963; Hage and Aiken, 1967; Rogers and Shoemaker,1971; Fliegel and Kivilin,1972; Baldrige and Burnham,1975). However, attributes that have been associated with innovations have normally been treated as the determinants of _adoptablity_. Accordingly, the influence of such attributes as, for example, risk, on the probability of the actual adoption of innovation has been studied (e.g Perry and Kraemer 1978; Perry and Danziger, 1980). Nevertheless, according to the argument below, treating attributes of innovation as determinants of innovation seems justifiable as well.

Assuming, following Shepard (1967:470), that innovation is a process that contains only three general stages; namely, "Idea generation" (idea fomulation or creation), "Adoption" (solution, decision), and "Implementation" (utilization), most authors, whether interested in adoption or adoptability, have concentrated on the second stage (Downs and Mohr, 1976). However, in their attempt at an innovation theory, Downs and Mohr (1979) indicated that adoptability is a "mirror image" of adoption. Hence an innovation may be adopted because it is

adoptable, or because an innovation is adoptable it may be adopted. Therefore, the question whether one should concern oneself with adoption or adoptability is the question of the perspective from which one looks at the choice situation. If one looked at this situation from the innovation perspective, adoptablity would be eye-catching. Conversely, if the situation were looked at from the adoptor's viewpoint, adoption would be noteworthy.

In the ensuing paragraphs, we will be looking at innovation from the adopter's perspective. Hence we will deal with innovation attributes as some of the determinants of innovation. Initially, a few of the innovations attributes, or properties, suggested by some authors will be reviewed. We will then shift to some of the individual, organizational, and environmental variables. Organizational structural variables will be reviewed briefly. More attention, however, will be paid to the influence on innovation of organizational culture and group variables.

6.1.The Attributes of Innovations

In discussing the essence of innovations (Ch.2) we looked at some broad elements on the basis of which innovations could be categorized. With those elements one group of innovations can be distinguished from another. However, the attributes to be discussed here are to distinguish one single innovation from another even if they belong to the same category. These attributes are not mutually exclusive; one or more of them can be characteristic of a single innovation or may be perceived by an adopter to be a feature of it. These are not the ultimate determinants of innovation, of course; nonetheless they are some added factors that are worth considering in the explanation of why certain innovations are adopted and certain others are not.

Attributes of innovation have been treated by several authors. Zaltman, et al. (1973), Glaser (1983) and a few others advanced some comprehensive lists of the factors that they regarded as important. Although the suggested attributes are subsumed under terminologically different titles, these are more or less related and there is sometimes an appreciable overlap. In view of the foregoing, rather than reviewing the most exhaustive list, we will take up some of the general attributes that recur in several lists which, although sometimes only implicitly, cover some of the more specific characteristics.

6.1.1.Complexity is the extent of comprehensibility of an

consisting of an idea as well as its realization, then complexity can relate to both levels. According to Zaltman et al. (1973), an idea that is easier to use than it is to understand may be more readily adopted.

6.1.2.Demonstrability is the degree to which the outcome of an innovation can be observed by the potential adopters or beneficiaries. Rogers and Shoemaker (1971) referred to this as "observability", but Zaltman et al. (1973) preferred "publicness versus privateness". The latter authors implied that the better the result of an innovation can be demonstrated to its potential adopters, the more likely it is to be adopted.

6.1.3."Triability is the degree to which an innovation may be experimented with on a limited basis" (Rogers and Shoemaker, 1971: 23). Buried in this concept is divisability and reversibility although Rogers and Shoemaker only pointed to the former. Divisibility is referred to as the possibility of implementing the innovation on a limited scale. Reversibility is related to the possibility of returning to the pre-innovation state. Needless to say, if an adopter does not care about the possibility of going back to the pre-innovation state of affairs, he might not be concerned with the possibility of testing the innovation on a small scale either.

6.1.4.Timeliness is related to the fit between innovation and the existing state of affairs. It is implied that the relevance of an innovation to the prevailing circumstances at a

particular time can affect its adoption (Davis, 1973).

6.1.5.Perceived Relative Advantage is related to the extent "...an innovation is perceived as better than the idea it supersedes" (Rogers and Shoemaker, 1971: 22). According to these authors, relative advantage may be measured in economic, social, and personal terms. Therefore, cost, return on investment, social prestige, and personal satisfaction may be all important in stimulating innovation. They maintain that what is also very important is that the adoption unit perceives the innovation as advantageous irrespective of whether any "objective" benefit may be derived from it or not.

6.1.6.Compatibility is referred to as the extent of perceived consistency between an innovation and the potential adopters' values, norms, and past experiences. Unlike Rogers and Shoemaker (1971) who preferred the foregoing explanation for the concept in question, Zaltman et al. (1973:17) related compatibility to the "similarity of the innovation to an existing product it may eventually supplement, complement, or replace". If the "existing product" is seen as an outcome or expression of the adopters' values, norms and "past experiences", included in the former authors' definition of the concept, then it may be clear that the Zaltman et al.'s definition is, in a sense, covered by Rogers and Shoemaker. The broad definition of compatibility connotes that innovation and especially selling an innovative idea, procedure, product, etc. can be an extremely complex task. This can be enormously

difficult because embarking upon such a job may very well require the prior changing of the adopter's values, norms, and beliefs and perhaps even the reinterpretation of his past experiences to himself.

The above attributes of innovation are assumed to be more important than others. Therefore, rather than discussing those others, we turn to the other possible determinants of innovation. Before doing so, it should be recalled that not all of the above attributes may affect the adoptability of all innovations in the same manner. Compatibility may be more important to the adoption of one innovation than to the adoption of the other. Moreover, these attributes may not demonstrate the same salience in all stages or sub-processes of the same innovation. Whereas one property may be more important in the initiation phase, another may emerge as more significant in the implementation phase.

6.2.Individual Variables

It has been implied that variables connected with organiza-tional actors, certainly including the power-holders and the leaders, may not be so important in predicting innovation as may have been thought. It has been indicated that the influence of individuals in organizations has, in fact, been overestimated. For example, Perrow (1970), ascribing the statement "organizations are people" to administrators and others, argued forcefully that "leadership" approaches to

organizational analysis would undermine the significance of systemic influences on organizational outcomes. Indeed, advocates of organization population ecology (e.g. Hannan and Freeman, 1977; Aldrich, 1979) recognize little role for individuals in affecting organizational outcome and thus rule out individuals' significance and hence their attributes in predicting strategic choice. From a resource dependence perspective (Salancik and Pfeffer, 1977; Pfeffer and Salancik, 1978), leaders make a difference but are constrained by contextual factors.

However, since early studies of innovation, which concentrated heavily on individuals as adoption units (e.g. Rogers, 1962; Arndt, 1968), individual variables have normally been seen as important determinants of innovation. Not only have individual factors been found to account for innovation, but strategic choice has been seen as possible as well (Child, 1972).

Baldridge and Burnham (1975) analysed the result of two research projects on organizational change in 20 schools in 7 districts and 264 large school districts to emphasize the significance of the impact of organizational as well as environmental factors. However, they noted that the individuals in power positions with communication linkages were no less important than the other factors in accounting for innovation. Hage and Dewar's (1973) comparison of the predictive power of the elites' values with leader values, memeber values and three structural variables, in their study

of the adoption of some innovations by 16 health and welfare organizations, proved elite values to be a better predictor of innovation. These findings support the evidence that those allocating organizational resources influence the adoption of innovation (Wilson, 1966; Sapolsky,1967). Kimberly and Evanisko's (1981) study of the adoption of technical and administrative innovations by some hospitals found that individual variables could account for the latter innovations.

Should we accept that structural properties of organizations are manifestations of individual traits and personalities, at least some of the time (Mitroff, 1983) and also accept that "organizations' environment are largely invented by organizations themselves" (Starbuck, 1976), which are individuals, it may be fair to think that individual variables are worth consideration as determinants of innovation. Indeed, based on his extensive review of the innovation literature, Rogers (1983) implied that many of the factors which have been used as predictors of innovation in several studies are equivalent to individual characteristics except that some of those such as organizational properties do not have counterparts in individuals.

In order to see what individual variables are, we turn to a pool of the variables that have been provided by Rogers and Shoemaker (1971). These authors' content analysis of about 900 reports of empirical research, dealing with the diffusion of innovations, highlighted some 31 individual variables that

affected innovation either positively or negatively. They grouped those under three general headings, a few of which are enumerated in Table (1-6).

Having pointed to the individual variables, attention should be directed to the nature of the studies that supported the significance of these factors. Most of the research supporting the view that individual characteristics have an impact on innovation (a) were concerned with individuals as the adoption unit, and (b) conceptualized adoption as the end point of the innovation process.

Two of the results that have stemmed from the above studies have been that individual variables have been overestimated and that there has been a tendency to categorize innovators on the basis of those variables. Therefore, whereas higher levels of achievement motivation have been attributed to the earlier adopters (emphasis on adoption stage), hardly any attempt has been made to discover if these variables have varied influences on other stages of innovation process, say, implementation, and, particularly, on stages in an organizational innovation process. Yet, there is at least one clue to suggest that not all individual characteristics may have the same impact on all stages of the process.

Having examined more than 500 successful innovations in more than 100 firms, Myers and Marquis (1969) concluded that "most of major information inputs (60 percent) were obtained through

Table (1-6) Summary of the effect of individual characteristics
          on innovation

Individual Characteristics	Effect on Innovation
1 - Socioeconomic variables	
- Age	Not related
- Education	Positive
- Higher social status	Positive
- More specialized operations	Positive
2 - Personality Variables	
- Ability to deal with abstraction	Positive
- Rationality	Positive
- Intelligence	Positive
- A more favorable attitude towrad change	Positive
- Ability to cope with uncertainty	Positive
- Achievement motivation	Positive
- Higher aspiration for education, occupation, etc.	Positive
3 - Communication Behavior	
- Social participation	Positive
- Cosmopoliteness	Positive
- Change agent contact	Positive
- Exposure to interpersonal communication channels	Positive

(Derived from Rogers and Shoemaker, 1971)

channels internal to the firm, while 30 percent were obtained through external channels (the remainder were multiple channels). The sources of major information inputs in addition to education and experience were personal contacts (23 percent), experimentation or calculation (8 percent) and printed material of any kind (7 percent)." They also implied that education and experience played a major part in the adoption (problem-solving) stage.

From this finding one can infer that individuals' cosmopolitanness measured by the degree of exposure to media and number of trips to other places or countries is a better correlate of earlier stages of the process, whereas education and experience may be better predictors of the innovation decision.

Nonetheless, in the implementation and routinization stages or substages these variables may turn out to be weaker predictors compared with organizational and environmental factors, as it has been found that company and industry factors accounted for more variance in certain indicators of performance in large corporations than did leadership effects (Lieberson and O'Conner, 1972).

6.3. Organizational Characteristics

Burns and Stalker's (1961) study of twenty British firms identified organic and mechanistic systems of management. The first system is characterized by a lack of well-defined hierarchy, on-going re-definition of roles, and lateral communication. Coordination is facilitated by means of regular meetings of the leading persons. The second system is illustrated as having a clearly defined hierarchy, at the top of which, it is assumed, there is an omniscient person. Vertical communication, containing decisions and instructions, is another attribute of a mechanistic system.

Although an organic system may appear more innovative than the other, Burns and Stalker indicated that neither system is ideal for all situations. Whereas the flexibility of an organic system may help it to perform better in an unstable environment, the rigidity of a mechanistic system can make it more efficient where environment is relatively stable and technology rather unchanging.

Thompson (1965) noted that a "monocratic" bureaucratic structure, such as expemplified by a mechanistic system, is an impediment to innovation. It inhibits innovation because it disintegrates the organization by creating an inequality in status, abilities, and contributions amongst the participants. Hence they can not work smoothly toghether to realize the innovation. However, in innovative organizations there are hardly such inequalities. There is enough room for creativity

and cooperation. Kanter's (1985) "segmental" and "integrative" organizations are very much like mechanistic and organic sytems. An integrated system differs from a segmental one, apart from anything else, in that the former fosters but the latter tends to stifle innovation.

The above are some general characteristics of systems and organizations. However, more specific structural properties have been identified and their possible effect on innovation has been studied. A brief discussion of four of these, integration, complexity/diversity, formalization, and centralization will follow.

6.3.1.Integration: Integration refers to the factors that facilitate the discovery and implementation of an innovation by a given organization (Yin and Quick 1977). This is what Zaltman et al. (1973) termed "Interpersonal relations" and "Ability to deal with conflict". Argyris (1962) indicated that attention should be focused on the interpersonal relations bearing on the decinion-making process in organization.

According to Zaltman et al. (1973), an orientation toward dealing with interpersonal issues may be important in innovation situations. Organizational participants face uncertainty, and strategies for dealing with these situations usually have not been covered by pre-established rules and procedures. Here greater reliance must be placed on the informal network of relationships. Kanter's (1985) study of

innovative organizations indicated that in those organizations an array of different specialities and a diversity of people would be recognized and even encouraged to be involved in the generation and implementation of ideas. However there are mechanisms that take care of likely conflicts and resolve the differences by providing a common ground for people to work together.

6.3.2.Diversity: Diversity, defined as the number of occupational specialities and their professionalism (Hage and Aiken, 1970: 33), has been suggested as illustrating varied influences on the different stages of the innovation process. Wilson (1967) hypothesised: "the greater the diversity of the organization, the greater the probability that major innovations will be proposed" (P:201), but "the greater the diversity of the organization the smaller the proportion of major innovative proposals that will be adopted."(P:202). Hage and Aiken's (1967) result of their study of programme change in 16 social welfare organizations did not support Wilson's hypothesis concerning the inverse relationship between diversity and innovation adoption. Zaltman et al. (1973), referring to their personal correspondence with Cooke (1972), quoted him as giving a different explanation as to why Hage and Aiken's findings contradicted Wilson's hypothesis. According to Cooke, so many innovations are initiated in a complex organization that even without the implementation of some, the number of occupational specialities would still correlate with the innovations adopted.

6.3.3.Formalization: Formalization is defined as "the emphasis placed within the organization on following specific rules and procedures in performing one's jobs" (Zaltman et al., 1973:138). Hage and Aiken (1967) found a negative relationship between high formalization and innovation. Duncan (1976) observed that while high complexity, low centralization and formalization facilitated the idea generation stage, lower level of complexity, centralized decision-making, and formalization increased the probability of implementation. Shepard (1967: 474) stated that clarity of purpose would be required for the implementation and implied that at this stage relatively high formalization, can smooth the process.

6.3.4.Centralization: Centralization is defined as the locus of authority within the organization (Zaltman et al., 1973:143). It has been indicated that there is a positive relationship between the degree of participation in decision-making and attempts at innovation (e.g. Burns and Stalker, 1961; Hage and Aiken 1967)

6.4.Organizational Culture

The concept of corporate culture is hardly novel, but its impact on strategy and innovation has only been recently recognized (For example, see: Ouchi, 1981; Schwartz and Davis, 1981; Peters and Waterman, 1982; Kanter, 1985). Given the increasing attention the topic is receiving, some space will be

devoted to a brief review of this concept and its possible impact on innovation. It should be indicated that culture and climate will be treated synonymously in this study. These concepts may not be exactly alike, as some authors (e.g. Evan, 1968) have implied. However, the interchangeable use of the terms seems justifiable in the absence of a clear, sharp, and reliable distinction between them. At the beginning, it is necessary to see how culture is defined.

Ouchi and Johnson (1978), as well as Deal and Kennedy (1982) defined culture amorphously as the "ways things are done here". However, a relatively more elaborate definition was offered by Pettigrew (1979: 572). According to him, organizational culture is "...an amalgam of beliefs, ideologies, language, ritual and myth."

Although the definitions suggested by other students of organizational culture are rather different and sometimes more elaborate, several of them are more or less in accord with that of Pettigrew's in regarding ideologies, beliefs, values, and norms as expressive of this concept (For example, see Eldridge and Crombie, 1974; Porter et al., 1975). With this explication of organizational culture in mind, we shall see how different cultures may affect their respective organizations'innovation capabilities.

Harrison (1972) emphasizing the impact of an organization's "ideology" on the behaviour of its members and stressing its

influence on the way it copes with the external environment, stated that much of the conflict surrounding organization change is caused by ideological struggle. He further conceptualized four distinct organizational cultures, which he maintained, are seldom found in organizations as pure types, but most organizations tend to centre on one or another of them. His postulated organizational cultures are called (1) power, (2) role, (3) task, and (4) person.

A power-oriented organization is characterized by strong leadership and conforming behaviour on the part of subordinates. The man at the top of the organization, of which the stucture is likely to have been poorly defined, is the sole power holder. Conflict, mainly of a "vertical" nature is very likely to occur in such a climate. In the role culture it is the rules that rule. Although power is still concentrated in a few hands, organization structure is well-defined. This climate is characterized by self-seeking and alienation on the one hand and lower commitment to organizational goals on the other. The task-oriented organization is characterized by high consultation and cooperation rather than coercion or the exercise of power. A good deal of creativity and change orientation, according to Harrison, stems from the climate created with task orientation. Finally, in a person oriented organization, or in an "atomistic" culture, there is little formalization and little attention paid to the leader, even if there is one.

Harrison pointed out that although each ideology may better 'fit' the needs of one focal organization and its members, yet an "ideal" ideology would possess some power orientation to check the external competition, a bit of role orientation for stability and integration, a charge of task orientation for good problem solving and rapid adaptation to change, and enough person orientation to meet the questions of the new recruit who wants to know why he should be involved at all unless his needs are met.

It has been indicated that variations in the formal structure of organizations represent various cultures (Harrison, 1972). Hence Handy's (1976) taxonomy of organizational structures can be regarded as the correlates of the four cultures. Handy called these structural categories pyramid (temple), net, web, and cluster. Rickards (1985) related these to Harrison's four cultures (Table 1-7).

Although at least two empirical studies which were carried out in the US (Ford, 1979) and in the UK (Graves, 1986) bolstered Harrison's conceptual work to some extent, they were not meant to associate the different cultures with the various stages of the innovation process. However, Johne's (1983) experiment, which was intended to elicit whether struture varies according to strategy and method of operation in 16 UK manufacturing firms, implied that there is a relationship between the type of culture and the stages of innovation.

Table (1-7) A classification of organizational structures and
their related cultures.

Structure	Characteristics	Culture	Characteristics	Examples
Pyramid (temple)	Rigid structure, written rules, high stability	Role	Accurately defined jobs, little individual freedom, people easy to replace	Civil service, Police, force, etc.
Net	Temporary structure, easy to informal communication	Task or Mission	Innovation oriented, flexible, technical expertise valued highly	Project teams, Matrix systems, etc.
Web	Centralized power, small head-office staff accoutable out-stations	Power for success or failure	Charismatic leader, clear rewards/ punishment	GEC, Some finance houses
Cluster	Nebulous structure	Person centered	Personalities flourish, informality of norms (assisted by tight controls for effectiveness)	Some sunrise industies, etc.

(From Rickards, 1985: 73)

According to Johne's study, for innovative companies
(pioneering in introducing new products proactively) there was
medium formalization and centralization in the initiation stage
and high formalization and centralization in the implementation
stage. By contrast, for the positional companies (introducing
new products in response to market pressure), there was high
formlization and centralization at the initiation stage and
this only slightly differed at the implementation stage. The
study implied that innovative companies are characterized by
task culture, whereas positional firms may display other

cultures.

Graves (1986), implying that organizations with the entrepreurial power culture are more innovation oriented, explained Johne's findings differently. According to him, reactive firms are more likely to be role cultures whereas innovative companies are very probably power cultures. The implementation stage may represent a spin-off from the main culture. In whatever mood an organization may be, the technological demands of the implementation stage would move it into a role-type sub-culture in the innovation process. Indeed, a company's movement into a sub-culture is always possible because different sub-cultures do exist in organizations, particularly the large ones, although attention is often focused specifically on the dominant cultures.

Although organizational leadership and structural variables have hardly been absent from the studies of cultures, more dimensions have been offered in connection with organizational climate. Benedict et al. (1967) presented organizational climate which fosters innovation under ten "dimesions" of organizational health. Those dimensions included: (1) Task accomplishment (i.e. clarity and achievability of tasks, smooth flow of communication, and collaboration); (2) Internal integration (i.e. good fit between personal dispositions and role demands, cohesiveness, morale), (3) Changefulness (i.e innovativeness, some degree of autonomy, adaptation, problem-solving adequecy).

These and the similar dimensions, e.g. risk, reward, warmth and support, interaction facilitation, goal emphasis, work facilitation, etc., which have been suggested by other theorists (e.g. Litwin and Stringer, 1968; Bowers and Seashore, 1966) as ingrediants of organizational climate, draw attention to the relationship between leadership and innovation.

If Harrison's four organizational cultures are seen as having been based on the Tannenbaum-Schmidt (1958) power continuum, the need for attention to the effect of leadership on innovation can be better felt. Moreover, if the dominant coalition, which naturally embodies a group, does play a major part in influencing innovation (Wilson, 1966; Sapolsky, 1967; Hage and Dewar, 1973) and if "the concept of culture is rooted... in theory of group dynamics" (Schein, 1985) then it will be useful to see not only how leadership, but how other group variables, may relate to the process of innovation.

6.5.The Group Dynamics:

It is a long time since the effect of groups in shaping the behaviour of individuals as group members was discovered. An empirical study of this issue dates back to nearly a century ago (Triplett, 1897). During this period, different dimensions of the group have often been studied and findings have emerged concerning risk-taking (e.g. Wallach et al., 1962; Pruitt,

1971), communication (e.g. Bavelas, 1948 & 1950; Bavelas and Barrett, 1951; Leavitt, 1951), leadership (e.g. Lewin et al., 1939; Bales, 1958; Fiedler,1981), just to mention a few. However, such variables as risk-taking, communication, and leadership have been studied less from the group perspective in relation to innovation processes and more from the individual and organizational standpoint in connection with innovation. Consequently, there are far more studies, for example, of the effect of individuals' communication behaviour as well as organizational properties on the innovation than are the studies of the impact of group communication network on it. However, the increasing emphasis that is being placed on the relationship between organizational culture and processes, as was noted above, suggests that a study of organization's micro cultures, embodying group processes, may reveal some relatively unheeded aspects of innovation.

Some earlier studies have emphasized the effect of the group in innovation situations (e.g. Lewin, 1943; Coch and French, 1948). Moreover, whereas there are hardly any studies to report the simultaneous involvement of an entire organization in the stages of innovation, it has been noted that innovation is usually carried out by individuals or small groups (Pressman and Wildavsky, 1973).

Lewin's (1951: 228) "law" of achieving change through group participation, which emerged specifically out of his review of the early studies of group effects, has probably been one of

the reasons why a number of organization development students have been concerned with group dynamics (For a review of OD literature that draws upon group dynamics, see; Beckhard, 1969; McGill, 1977; Varney, 1977).

If innovation studies are seen as complementary to the OD research (Becker and Whisler, 1967), the findings of group dynamicists may well prove useful in a study of innovation. Therefore, we shall see how group variables may relate to the innovation process. To be sure, there are quite a number of group variables, but we will focus on problem-solving, communication, deviance, risk-taking, creativity, leadership, and cohesiveness. The discussion of these variables is greatly inspired by Butler's (1981) conceptual analysis of the relevance of small group dynamics to the innovation process.

Arguing that "the search for overall organizational characteristics leading to innovation is misleading, especially when considering large organizations" (p.764), Butler asserted that group processes have much more to offer with respect to innovation. He found a model of organizational ecology useful in examining the concept of innovation. Therefore, borrowing organizational ecologists'terminology, he proposed enactment, selection, and retention to define what other authors have called idea-generation, adoption, and implementation respectively. Having then discussed some of the group variables, enumerated above, he offered strategies which link these variables to the three stages of innovation. Table

(1-8), which summarizes his conclusions, appear after these variables are discussed.

6.5.1.Group problem-solving: Groups may mobilize their members (Cartwright and Zander, 1968) as well as speeding up their learning processes (Perlmutter and Montollin, 1952). Judgement and problem solving may also be facilitated by groups (Shaw, 1981). However, the extent of the complexity of the task and problem will affect the ease with which the task may be excuted and the problem may be solved.

Bales and Strodtbeck (1951:485) defined a group's phases of problem-solving process as:

> ...qualitatively different sub-periods within a total continuous period of interaction in which a group proceeds from initiation to completion of a problem solving group decision.

Both these authors and Pelz and Andrews (1966) came up with almost the same broad stages of innovation process (i.e., generation, adoption, and implementation), albeit for group decision making and in different words.

6.5.2.Communication network: The influence of the group communication network on the members' job satisfaction, structural awareness, and problem-solving behaviour has been studied by a number of group dynamicisits (For a review, see Shaw, 1964 & 1978). Two classic studies belong to Bavelas (1950) and Leavitt (1951). They tried to discover the outcome of five patterns of communication network by experimenting with the

groups consisting of five members (Figure 1-8).

The effectiveness of each pattern was measured with respect to six factors; time to development of a stable organization, time to solution, number of errors, leadership, structural awareness, and job satisfaction. In making their actual communications, the participants could only use fewer channels from one network pattern to the next. The factors varied consistently from the circle through the chain and Y forms to the wheel.

Figure 1-8. Patterns of Communication Network

The all channel netwok   Circle   Chain
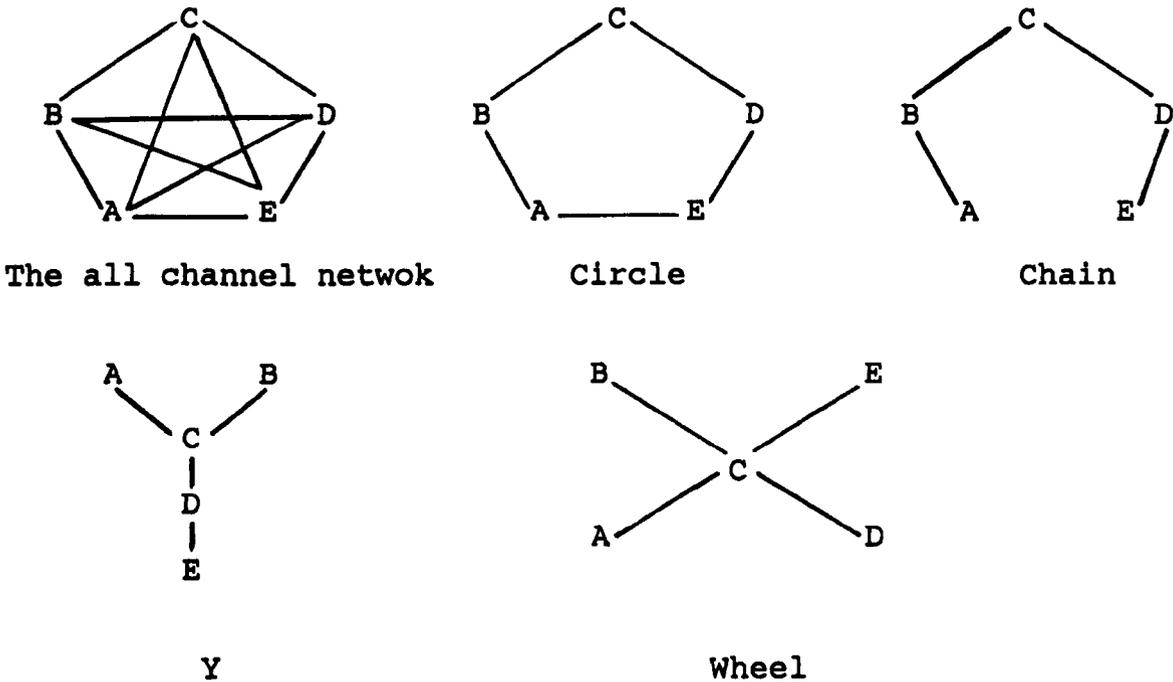
Y   Wheel

(From Leavitt, 1951:47)

As far as the first two factors were concerned, the wheel pattern, whereby four members of the group directly communicated with the fifth from whom they, in turn, received relevant messages, proved more effective. Although the group whose communication network was wheel-shaped was more effective than the groups with circle networks in feeling that they had a leader and being able to reproduce an organization chart for their group, the average job satisfaction was higher for circle group members. Moreover, the circle group memebers seemed more prone to error.

Shaw's (1954) comparison of the effectiveness of the wheel, circle, and all channel networks in the solution of arithmetic problems, indicated that the circle, not the wheel, was most efficient. Shaw attributed the contradictoriness of his and Leavitt's findings to the complexity of the task involved, thereby asserting that a more complex task requires a less centralized network.

Based on these observations Butler (1981) hyothesized that whereas a less hierarchiacal wheel structure approaching that of the all-channel network is more likely to be effective in the initiation stage, the hierarchical wheel network may be a better medium of communication in the adoption and implementation stages.

6.5.3.Deviance: Deviance can be disruptive to group goal

achievement. Hence it has been suggested that for group performance, compatibility of group members involving both complementarity and similarity dimensions is required (Shutz, 1966). Merton (1968), as a sociologist, distinguished among deviancy, conformity and rebellion. In discussing an individual's mode of adaptation to society by either accepting or rejecting the institutionalized ways of accomplishing cultural goals, he saw an innovator as an individual who accepts the cultural goals and rejects the means to achieving them, the conformist as the one who accepts, and the rebel as the person who rejects both.

Deviants may not necessarily be innovators; they may trigger innovation. According to Leavitt (1964: 276-277), "deviants stimulate groups to think about what they are working on. Deviants, whether they are themselves creative or not, generate creativity in groups."

Although deviant behaviour is likely to be a source of intra-group conflict, it has been suggested that this might be desirable in the early stages of innovation. Hawley and Heiner (1979) maintained that conflict is necessary in the early stages of a group task, but once it has settled down, stable situation will be needed.

6.5.4.Risk-taking:Although both decision-making and innovation researchers (e.g. March and Simon 1958; Duncan, 1972; Zaltman et al., 1973) have been concerned with the risk and uncertainty

involved in a decision-making situation, group dynamicists have studied the effect of the group on risk-taking behaviour.

Two phenomena as to the effects on decision making of groups have been widely studied. The first of the two is called "risky-shift", which indicates that groups tend to make riskier decisions than individuals (Stoner, 1961; Wallach et al., 1962). The second is referred to as "cautious shift", which claims that groups tend to make more conservative decisions than individuals (Hunt and Rowe, 1960; Atthowe, 1961). Myers and Lamm (1976:603) summarized many of the foregoing findings in terms of the group-polarization hypothesis; "The average post-group response will tend to be more extreme in the same direction as the average of the pregroup responses."

Two of the interesting findings of the risky shift experiments indicated that a) group members demanded more resources when they realized they would be held responsible for the consequences of the decisions they were making (Staw, 1976), and b) they were more likely to adopt a riskier alternative when there was a member who, by accepting the whole responsibility, would protect them against any possible undesirable outcomes of the risky alternative they had adopted (Wallach et al., 1962).

6.5.5.Creativity and brainstorming: Group members normally get together to solve problems through convergent thinking. they may get a chance to clarify their different ideas and discuss the relevant information in order to converge on an acceptable

solution. However, when novel ideas and original answers are sought, divergent processes may be more helpful. A technique that has been found to increase creativity and the generation of innovative ideas has been called brainstorming.

One of the best-known creativity procedures was developed by Osborn (1957). Although variations on the basic method are many, Osborn's includes the following rules for each member:

1. Expressiveness: express any idea that comes to mind, no matter how strange, wild, or fanciful. Constraints should be avoided.

2. Noneevaluative: ideas should not be evaluated in any way during the generation phase. All ideas are valuable, and criticizing another's viewpoint should be avoided.

3. Quantity: more ideas increase the possibility of a better solution. The more ideas, the better.

4. Building: modifying and extending other's ideas is recommended when it comes to choosing an alternative course of action.

Although the effectiveness of brainstorming has been called to question by some empirical studies (For a review, see Lamm and Trommsdorf, 1973), this creativity technique seems to have

remained popular (Rickard, 1974).

Further group creativity-enhancing techniques such as the nominal-group technique (Delbecq and Van de ven, 1971), Delphi (Dalkey, 1968), and Synectics (Gordon, 1961) have also been developed (For a review and comparison of some, see: Shaw, 1981). Despite the fact that the most effective method is yet to be developed, it seems fair to conclude from the creativity studies that new ideas are more likely to be generated when interaction among group members is discouraged, but that the ideas are more likely to be adopted when the participants interact. Nonethess, one may want to know how the ideas may be effectively diffused to a wider organization once they are adopted (Butler, 1981).

6.5.6.Leadership: Because the impact of individual variables on innovation has been already discussed (6.2), a discussion of the influence of leadership and leaders' characteristics may appear unnecessary. If it is remembered, however, that the individual variables, discussed above, have initially emerged out of studies of the behaviour of individuals as innovators, not as leaders, a separate treatment of leadership dimensions relative to innovation will appear useful.

Leaders may not be innovators themselves, although innovation is considered to be part of leaders'or managers' roles(Sayles, 1964; Stewart et al., 1980). Yet they may create, if they do not destroy, a climate that will breed innovation. Moreover,

talk of the group as a mini society will inevitably call attention to leadership. Indeed, anthropological evidence indicates that "there are no known societies without leadership in at least some aspects of their social life." (Lewis, 1974: 4).

The significance of leaders in affecting organizational culture and structure (Pettigrew, 1979; Hambrick and Mason, 1984; Mitroff, 1983), strategy (Norburn, 1986), effectiveness (Bowers and Seashore, 1966) has been recognized. But what has remained the "least understood phenomenon on earth is the leadership itself" (Burns, 1978:2). Given this observation, suggestion of a reliable working definition of leadership will be difficult. However, Grimes' (1978) conceptualization of leadership as a "process of legitimate influence rather than a quality of a person" is adopted for the purpose of this discussion.

Many of the personality traits of leaders, which had been identified by previous studies, were summarized by Stogdill (1974). Some of these, such as achievement motivation, happen to be the same as those of innovators, which were discussed earlier. However, as the above definition implies, legitimate influence relates to dimensions of leadership rather than just to personal qualities. Therefore, it is likely that more than one group member will fit, in different times or situations, a role commensurate to one or another of the related dimensions which can gain a member legitimacy .

Bales (1958) distinguished among three dimensions of group leadership. These were called activity, task ability and likeability. Activity is related to the requirements of the task, task ability is linked to the expertise for dealing with problems and implementing the solution. Likeability is related to the ability for dealing with tension, antagonism, etc. The member(s) who happen to enjoy task ability and those who display an ability to take care of emotive issues are called task specialits and maintenance, or socioemotional, specailists respectively.

Students of leadership have been mostly concerned with leadership style, but Fiedler's (1978) contingency theory, which asserts that different styles are more effective in various situations, seem to relate situational control variables to innovation process. These variables are referred to as leader/member relations, task structure, and position power. Leader/member relations is related to the leader's accepteance by the group, so that if the group is conflict free and cooperative, then the leader can be confident that suggestions and requests will be heeded. Task structure is associated with the nature of the task at hand. Although for certain tasks there are standard operating procedures, there may always be situations in which the group should come to grips with an ambiguous task. Position power refers to the leader's power over the other members of the group. Hence, the leader's control over rewards, punishment, salaries, hiring, evaluation, and task assignment are the indicators of position

power.

Drawing upon leadership dimensions and leadership requirements of adaptation to situational developments, Butler (1981) indicated that in the idea generation stage, when novel ideas are needed, leaders' use of deviance as a source of new suggestions may be advisable. However, as the innovation proceeds and disagreements and conflicts over the innovation and mode of its implementation become more likely, the need for a maintenance specialist role will be more salient. This specialist can make the adoption of innovation possible in a friendly atmosphere. Finally, when it comes to the implementation stage a task specialist will be required so the innovation process may be completed more efficiently.

6.5.7.Cohesiveness: Group cohesiveness may not influence innovation directly. However, it may affect the group members such that they behave differently than they otherwise would in a non-cohesive group in an innovation situation.

Cohesiveness has been defined as "the resultant of all the forces acting on the members to remain in the group" (Festinger, 1950: 274). Cohesiveness represents the "spirit of the group", a feeling of solidarity that binds people together to form a single unit.

Cartwright (1968) has outlined a number of positive and negative effect of cohesiveness. In a cohesive group, members

tend to participate more fully and communicate more frequently while absences are much less likely. Cartwright reviews studies in which people belonging to cohesive groups enjoy a higher degree of self-esteem and suffer less from anxiety, probably because the group provides a source of security and protection. Such groups have also been found to be more effective than less cohesive groups in achieving goals that the members themselves consider to be important. Hence, cohesiveness "contributes to a group's potency and vitality; it increases the significance of membership for those who belong to the group" (Cartwright, 1968: 91).

Cartwright's review of the literature also indicated that people in cohesive groups tend to accept the group's goals, decisions, and norms. However, cohesive groups exert a more powerful influence over their members than do non-cohesive groups. As was implied by Festinger (1950), if a member is not attracted to the group but is pressured to perform certain behaviours, then that person may simply leave the group. Moreover, it has been shown that such groups bring greater pressure to bear on dissenters (Festinger et al., 1952), and the more cohesive the group, the greater was the rejection of an unyielding deviant (Schachter, 1951).

Although even the negative influence of cohesiveness may not appear detrimental to the outcome of a cohesive group at first sight, sustained high cohesion may be a source of resistence to innovation, if not a cause of members' frustration. Having

introduced a change successfully by using certain means, a highly cohesive group may develop such a rigidity that may hinder the introduction of dissimilar changes or the utilization of different means.

Table 1-8. Stages of Innovation and Small Group Process

Small group process	Stages of Innovation		
	Enactment	Selection	Retention
1. Problem solving, learnig and judgement	Orientation phase requires high interaction	Evaluation phase requires low interation	Contol phase requires task interaction
2. Communication network	All channel for enacting variation	Slash network as step on the way to a wheel	Wheel hierarchy for efficient completion of defined task
3. Deviance	Deviance required to enact variation but within overall norms of group goals	Deviance needed to be controled	Deviance not required, in fact dysfunctional to efficient task completion

Stages of Innovation and Small Group Process (continued)

Small group process	Stages of Innovation		
	Enactment	Selection	Retention
4. Risk taking	Group appears to assist risky shift and hence increase in variation of diffusion of responsibility	Risk taking still required	Risk taking not required
5. Creativity	Nonevaluation of ideas in all channel network to increase variation	Not particularly appropriate	Brainstorming as a way to loosen up a rigid hierarchy and hence move back to enactment
6. Leadership	Idea specialist of highish status and deviant nature	Maintenance specialist	Task specialist
7. Cohesiveness	Not conductive to variation enactment. Must,however, have a minimum of cohesiveness	Cohesiveness now becomes important	Cohesiveness assists in retention of variation

(From: Butler; 1981: 782)

6.6.The Environmental Factors

It is obvious that organizations do not function in a vacuum. They are embedded in a context that affects them as they affect their context. Hence the need for attention to the cultural milieu of organizations, as one of the environmental determinants of administrative behaviour, has long been recognized. Crozier's (1964) much cited study of events in two French organizations attributes the administrators' conduct to this country's culture which, as he noted, contain social values favouring social isolation and formality when compared to the United States. Others (e.g. Azumi, 1974; Hall; 1977; Hofstede, 1980) also regard the dominant culture in the environment of organizations as an important factor in determining its behaviour.

Some authors have analysed not just culture, but other elements of the organizational environment(s) as well. The "Causal Texture of Organizational Environments" (Emery and Trist, 1965) as well as the influence of contextual certainty and uncertainty on dicision units (Duncan, 1972) have been studied. However, although innovation students have emphasized the influence of environment on innovation conceptually, they have rarely analysed such an issue empirically (Kimberly, 1981). Several of the foregoing studies can be found in Starbuck's (1976) exhaustive review of environmental analyses, however, we will attend to a few in the following paragraphs.

Rogers and Shoemaker's (1971:369) review of a number of

innovation studies indicated that two-thirds of the studies of innovators' communication behaviour illustrated that "earlier adopters are more cosmopolitan than later adopters'". The measures of cosmopolitanness, as was pointed out, included the innovators' involvement in matters beyond their local system, wide exposure to cosmopolitan communication channels and the like. In almost all earlier researches the communication behaviour of _individual persons_, as adoption units, had been studied. However, it has also been implied that _organizations_ that were more exposed to external channels of communication were likely to be more innovative (Myers and Marquis 1969; Utterback, 1971).

The influence of environment is not salient in only providing cosmopolitan organizations with new information inputs; environments sometimes force organizations into or out of adoption or non-adoption of innovations as well. Neither auto manufacturers nor their employees might have been willing to adopt an assembly-line production system had it not been for the installation of such a mode of production by Henry Ford. Once he installed and produced cars at such volume and low cost that threatened their market (Braverman, 1974) they were forced to adopt a similar process.

Rosenberg (1970) indicated that social movements had an impact on the introduction of some innovations and Skocpol's (1976) historical study of the revolution in China illustrated that the industrialization process in that country did not actually

begin until the success of the revolution was achieved in 1949. As has also been shown the Communist Revolution in China somehow changed the way in which societal resources used to be allocated.

Resource re-allocation, however, need not come about as the result of a revolution. A shrinkage of national income might result in a shrinkage in the budget which could have otherwise been used for the subsidization of education. This may force, for instance, more universities to commit themselves to such innovative activites that can earn them more financial resources so that they may depend less on public funds. Hence they might engage more in consultancy than in teaching.

Some scholars have regarded the environmental forces as so important that they have argued that research on innovation diffusion should shift from a focus on individuals to organizational characteristics and environmantal factors (Baldrige and Burnham, 1975). It has also been argued that environmental changes are likely to cause problems for organizations and thus stimulate change within them (Evan, 1965; Terreberry, 1968).

In their discussion of diffusion milieux, Feller and Menzel (1977) identified some environmental constraints that limit the effectiveness of a given innovation. "These constraints include societal customs, norms and values, physical characteristics, and economic conditions." Forhman et al.

(1972) lamented that the role of suppliers as an import factor in the diffusion of innovation had been a neglected aspect of diffusion studies. Later, however, Von Hippel's (1976) study of more than a hundred scientific instrument innovations emphasized the importance of the users' role in the development and successful commercialization of the instruments. He found that almost 80% of the innovations, judged by users to offer them a significant increment in fuctional utility, were in fact invented, prototyped, and first-tested by users rather than by the instrument manufacturer.

Research on the influence of environment on the generation and adoption of _technical_ innovations are more numerous than the studies of the impact of environmental forces on the same stages of the process of _managerial_ or _organizational_ innovations. Nevertheless, Litterer (1961,1963) has studied the historical context of management thought as it developed and illustrated how contextual forces constrained managerial innovations. Frankline (1976) compared 11 attempts of successful organization development with 14 unsuccessful ones. He found that the context of the organizations that succeeded in the attempts of OD was characterized by competitive market, higher pay rates, and heterogeneity. However, his observation indicated that the organizations that were involved in unsuccessful OD efforts were embedded in an environment that was characterized by steady market and by lower pay rates.

The Summary of Part One

This Part included Chapters two through six. Chapter two covered several definitions of innovation, offered a new one and distinguished the concept from ordinary change. Chapter three offered four categories for innovations. Chapter four examined some possible internal and external sources of innovations and Chapter five looked at the processes of innovation. Some sources of variations in the process models were considered as well. Chapter six reviewed some determinants of innovations, namely attributes of innovations, individual variables, organizational culture, group processes, and environmental variables.

Several points emerged from the literature review that are worth remembering. A few of the most relevant to the objectives of this study are highlighted below.

First, as we see from the above Chapters, innovation research appears to have been barely connected with the vast body of literature on organization and management. Only a few (e.g. March and Simon, 1958; Zaltman et al., 1973; Rickards, 1985) have related innovation to organizational theory and models (Ch.18). However, conceptualising innovation as a linear process (Ch.5) and regarding it as 'rational' only if it does not involve any iteration, etc. (see, P.64) imply that assumptions underlying innovation models are akin to the ones implicit in the 'rational' model of organization. Hence

something predetermined and desirable to decision-makers can be achieved by taking some rather straightforward steps.

Second, obsession with growth, and taking the availability of resources and full information about all aspects of innovation has fostered such models. Besides, implementation has been seen as rather unproblematic. Hence if a decision is made for the adoption of an innovation, then that decision is taken to warrant implementation. If implementation needed anything, that would be a little more "formalization", a "role culture", or a "more centralized group" (see, 6.3; 6.4, and 6.5).

Third, much effort has been put into distinguishing between technical and administrative innovations without even clarifying the layers, namely, operational, managerial, and strategic (see Ansoff, 1965:21) these can be related to. It has been assumed that the processes of each must be different (see, 5.3).

Fourth and fifth, innovation scholars have left the empirical relationship between the group processes and environmental influences on the one hand and innovations on the other relatively unattended (see, 6.5 and 6.6).

We shall not dwell on these points anymore or try to disentangle these conceptual issues here. We will take these up again in Part three after we have covered the case history of an innovation which is to follow.

Part Two

The Case History

CHAPTER SEVEN

The Scope and the Design of the Study

This Part of the study reports the case history of an
innovation. It will also attend to another significant
innovation or "re-creation" (Tushman and Romanelli, 1985; also
see, 4.3) which preceded the focal undertaking. It is expected
that the consideration of both of these Innovations, which
differed in certain respects, will permit a comparison between
the effects on them of similar factors.

The case study method is found appropriate for research on an
innovation process (see Appendix B). Accordingly, the
progression of the Programme is demonstrated in the course of
reporting its case history. The organizational setting of the
Innovation is one of the five universities established in
Tehran as a result of the merger of more than fifty public and
private institutions in mid 1980. This occurred about a year
after the Islamic Revolution and when the Cultural Revolution
got under way (Also see Appendix B). Besides the University,
to be called Ensani, the Ministry for Culture and Higher
Education (the Ministry) and the Council for the Cultural
Revolution (the CCR) were involved in the Innovation in
question. The roles of these two bodies, which will be
referred to as the Policy-makers, will be examined in
conjunction with the influence of the general environmental
conditions.

The main Innovation, to which we will refer repeatedly in this case, is a Distance Learning System (DLS/Programme). The other undertaking is a newly designed but Conventional (face-to-face) higher learning system (CS). We will be concerned with the whole process of the former, which unravelled in parallel with the execution and routinization of the latter. Hence the study is expected to broaden our understanding of the implementation of innovations and " parallel diffusion" (Kimberly, 1981) which are, according to Kimberly, underresearched.

Although both those Systems included new curricula that distinguished them from their predecessors, the more significant point of departure between the old and the new Systems was that the concomitant rules, procedures, and decision making structure of the new Systems were different from those of the old. The new curricula used for the same courses of both the DLS and CS were the same; yet the ways they were presented were different. The method of the presentation of curricula in the DLS is briefly explained in Appendix C. However, we are not concerned so much with the detailed peculiarities of the Innovations as we are with their general processes and administration. Treating the DLS broadly as a service innovation, we will also look at the issues characterizing the Innovation situation.

The possibility of generalizing from a study of this nature is tackled in Appendix B. It is also necessary to add that unless they have been narrowly related to some particular aspects of

large institutions of higher learning, findings derived from a
study of these organizations may well apply to other public and
private organizations as well. Although universities have
characteristics that distinguish them from other organizations,
it is believed that they also share several characteristics
with other organizations. It should be noted that universities
have been described as _institutions_ (concerned with performing
something essential for society, such as educating the youth),
or as _communities_ (that provide such an atmosphere in which the
pursuit of truth, etc. is made possible)(Reisman, 1958; Capen,
1953; Woodburne, 1958; Barton, 1961). They have also been
regarded as _formal organizations_ (Gross, 1968) which are
predominantly "bureaucratic" (Stroup, 1966), "political"
(Baldrige, 1971), or are "organized anarchies" (Cohen _et al._,
1972). They have been considered _loosely coupled systems_
(Weick, 1976) as well, and have been singled out as holding
dual identity, as _church_ and as _business_ (Stuart and Whetten,
1985).

As far as Iran is concerned, the research findings are more
likely to apply to different settings. This is because the
nationalization of industries and the control of the private
sector by the state, to cope with the post-Revolutionary
conditions, has created a situation in which the private sector
can operate in much the same way as the public sector. Of
course, given the domination of religion in the country, even
when other conditions change, the two sectors may not be
sharply distinguishable. Indeed, as is illustrated in an

historical review of the emergence of private enterprise in its new form, no sharp distinction existed between private and public sectors where state rulers were guided by religion (Gilb, 1981).

The rest of this Part consists of four Chapters. In the first and second Chapters, the context of the University and the setting of the study are dealt with respectively. The third and the fourth are devoted to the description of the Initiation and Implementation Phases of the DLS, or the Programme. These Phases and their elements are illustrated at the end of this Chapter. The analysis and the implications of the case are left to the Parts Three and Four. The influence of the determinants of the Innovation usually cut across the sub-processes involved. Hence analysing the case in the course of describing it could lead to the reiteration of certain aspects. Moreover, attempting both the description and analysis simultaneously might obscure either or both. Because the outstanding features of the case are alluded to in the course of its analysis, no summary of the case is provided at the end of this Part of the study.

The framework used for the description of the case is based on the sub-processes of the DLS process. The Innovation to be reported was not fully preplanned. It embodied, more or less, an "adaptive" implementation strategy (see appendix B). Hence the sub-processes are derived _ex_ _post_ _facto_ from the observation of its itinerary. Depending on the extent to which they

could be more logically related to one of the sub-processes, the issues and the events characterizing or surrounding the said itinerary are structured and described under the heading of the most relevant sub-process.

Although relatively blurred (because they did not occur in a clear and straightforward manner), ten sub-processes were noted. An eleventh had barely got underway when this study was terminated. Although the latter sub-process can not be treated here in much detail, it is included in the enumeration of the sub-processes to give a full picture of the Innovation process. These sub-processes, which are grouped under two broad headings, with a brief explanation of each, run thus:

I - The Initiation Phase:
   1. Problem realization: The University realized that it had to correct a deficiency in its range of services. This prompted the top administrators to search for the causes of the problem and seek some possible solutions.
   2. Information gathering: The management team was convinced that a possible solution would be in the form of a strategic innovation, to be formulated on the basis of the information that it felt was needed. This triggered some information gathering activities.
   3. Formulation of the Innovation: A three member team formulated a solution on the basis of the information gathered.
   4. Attitude formation: The solution was favoured by the

Management Council.

5. <u>Formal legitimation</u>: The solution which was favoured by the Management was legitimized by the sanctioning bodies.

II - The Implementation Phase:

6. <u>Formulation of the implementation strategy</u>: The solution was redefined and a relatively detailed implementation strategy was developed.

7. <u>Intra-organizational diffusion</u>: Attempts were made to diffuse the solution to those to be most directly involved in the implementation of the Innovation.

8. <u>Resource acquisition and allocation</u>: Attempts were made to reallocate some resources and to acquire and allocate the resources that were not available.

9. <u>Preliminary implementation</u>: The Innovation was implemented on a small scale.

10. <u>Full scale implementation</u>: The Innovation was implemented on a larger scale despite the problems surrounding it.

11. <u>Routinization</u>: Implementation on a large scale could be tantamount to the routinization of the new System if new students were taken into it. However, it has been recently decided that new students would be absorbed only after some changes have been introduced. It is therefore to be expected that further new developments will occur before the System has been fully routinized. Although this justifies paying some attention to this sub-process as it proceeds, it is beyond the scope of this study to treat that sub-process fully.

CHAPTER EIGHT

The General Context of the study

Some authors (e.g. Terreberry, 1968) on management or organization talk about possible turbulence in the environment of organizations. The general context of the case to be reported was indeed turbulent and tense; all sorts of political, cultural, economic, social, and military events characterized the environment of the organization. The University was being formed less than two years after a Revolution that had eradicated a 2500-year-old dictatorially monarchic system. A neighbouring state had attacked the country while several counter-revolutionary bands were challenging a central government that had not yet settled down. Such a state of affairs in the environment of the organizations in the country impacted upon the formation of Ensani, which then had to carry on in relatively the same conditions as it had been set up. However, we will only focus on a few of the contextual elemets whose effects on the innovation were particularly prominent, while acknowledging the importance of all of the environmental elements which bore on the University one way or the other.

Early in 1979, when the Revolution finally succeeded, the provisional government was concerned, among other things, with the state of the economy. Pre-Revolution strikes that were staged to paralyse the then government had dealt a severe blow

to the country's economy. The strikes had badly affected the exports, to say the least. Besides, the economic sanctions that were imposed on the country by several Western countries, about a year after the victory of the Revolution, only exacerbated the situation. However drastic they appear to be, those events may not fully convey the overall state of the economy. Although we are not concerned with such a picture here, mention of one more of the events is necessary because it is particularly relevant to our case.

A great number of large organizations, public and private, had been run either by those loyal to the monarchic system or by those who opposed the Revolution for their own specific reasons. These people either fled the country taking millions of dollars with them or just stepped down leaving their organizations in a state of chaos. Because several presidents, as well as members of boards of trustees, of the universities were among those who had left, their organizations had ended up in no better position than their industrial and financial counterparts.

The Council of Revolution, embodying the country's legislative body until the new Constitution was drawn up and enforced, and the provisional government were thus forced to seek means of bringing the situation under control as quickly as possible. Various measures were taken for the establishment of law and order. As far as the organizations were concerned, they were allowed to be controlled by the revolutionary elements that

were present in almost all those institutions. Although a great many of the organizations were also nationalized so that they could be better controlled, there remained other problems that begged immediate attention.

Not all of those who had taken over the organizations were revolutionaries, and not all of the revolutionary ones were competent enough for the jobs to which they had been assigned. It was decided therefore that organizations doing the same or rather similar activities had to merge with one another so that utmost use could be made of the known competent people. It was also thought that these mergers could make for efficiency, which was badly needed in those critical economic conditions.

A large number of the higher education institutions fell prey to the decisions that were being made for other types of establishments. The thrust for control as well as efficiency and the need for a response to the shortage of reliable, competent managers were some of the factors underlying the decisions for the nationalization and mergers of other organizations. An added reason for the policy-makers to advocate the merger and nationalization of so many private institutions was effectiveness. Fifty-four private and a few of the public independent (not affiliated to any universities) schools, colleges, and two universities were to merge in two phases. In the first, they were to merge to form six specialized universities; in the second, these were to merge again to form a single large university.

Although it was extremely difficult, both for technical reasons
and for the resistance a number of the affected people showed,
the first phase of the mergers was effected with but one
exception; one of the groups was only barely formed. But the
second phase of the merger was never carried out because hardly
any one showed any interest in pursuing the matter any longer.
Even then, no official statement was ever made to indicate that
the merger decision had been withdrawn. Because there was no
deadline for   the ultimate mergers, the   spectre of the
possibility of such an incident remained hovering over the
merged institutions. The uncertainty that thus engulfed the
said organizations lingered until after two of them had merged
with other universities, and two merged with each other to be
given the full status of a university along with the last one,
which remained intact.

The merger of so many institutions might not have been
possible, at least during the time in which it was in fact
effected, if all the country's higher learning institutions had
not been closed. However, the teaching activities in par-
ticular were halted, so that preparations could proceed for the
attainment of the initial objectives of the Cultural
Revolution, which was a reorganization of the country's higher
learning institutions. This was about the same time as the
merger activities got under way.

Apart from its other aims, the Cultural Revolution was intended

to bring about the fulfilment, in part, of the ideals of the Islamic Revolution. In the course of the latter event, people had reflected their ideals in a particularly dominant slogan; "independence, freedom, Islamic Republic". The fact that almost one hundred percent of eligible voters, about 20 million people, voted for the Islamic Republic demonstrated that independence and freedom were wanted under the auspices of Islam.

One of the areas where independence was seen to be badly needed was the country's higher learning system. The existing curricula, which could have some Islamic orientation, e.g. politics, economics, were almost totally devoid of any Islamic content. Theology, philosophy, and the Persian Literature courses, which were offered in a few small faculties, were the few exceptions. The demands of the country were not reflected either. Outdated Western theories formed the bulk of the subject matter of university courses. The few institutions that had been set up relatively recently were modelled exactly after Western universities, particularly the American ones. These were initially meant to develop skilled people for multi-nationals. Needless to say, even the older institutions were greatly influenced by Western universities in areas such as the education system, curricula, tenure, etc. (For a treatment of those influences, see, for example, Bill, 1972; Szyliowicz, 1973; Fischer, 1980; Keddie, 1981; Siddiqui, 1982;).

A seven member council, the Council for Cultural Revolution (CCR) was formed to act as the legislative body with respect to

cultural and educational matters. This Council was to give priority to an overhaul of the higher learning system. Having been formed, the Council created several committees comprising many academic members of the institutions and some highly qualified members of a few of the Ministries. They were to design new curricula for all university courses so that these contained both Islamic content and new subjects. They were also to come up with plans for the reorganization of the institutions while working out ways of enhancing effectiveness and research.

The Ministry for Culture and Higher Education (the Ministry) was to work in conjunction with the CCR. However it also had the added responsibility of ensuring that the new curricula and policies would be put into effect properly as they were prepared. It was to liaise between the institutions and the CCR while having to coordinate the former's activities and attending to their resource requirements.

To fulfill its wide range of responsibilities, the Ministry felt that it needed centralized authority. Therefore, it abolished the institutions' boards of trustees, many of which had been practically dissolved, as was explained above, for the departure of their members. A central board of trustees and a few special committees were then formed in the Ministry to perform the new tasks with which the Ministry was entrusted.

Moreover, both the CCR and the Ministry (they will be referred

to as the external Policy-makers or soley as Policy-makers) allowed the universities to be run by Administrative Councils. These were called University Reconstruction Committees, and were to replace the University Councils. The latter comprised several academic and non-academic staff and students of universities. They had been formed to regulate the institutions immediately after the victory of the Revolution. This was when almost all these organizations were left without a governing body. With the students in the Administrative Councils, which included the presidents and vice-presidents, the student bodies were now officially recognized. (It should be pointed out that there were hardly any recognized student organizations in the universities before the Revolution (Bill,1972)).

In view of the dramatic changes that the institutions had to undergo, it was felt that they should not have resumed their teaching activities for at least five years. Indeed, public opinion seemed to support this. However, the more the Revolution was consolidated and the more everything settled down, the more impatient everybody grew with the discontinuation of the teaching programmes. The pressures built up quickly to lead to a hasty resumption of the courses. Even then, much of the work that had to be done had been done and students returned to their classes to face the changes. The rest of the work and evaluation of what had been done was left to be taken care of in the course of the re-activation of the classes.

Except for such things as changes of curricula, that might not have had any counterparts in other organizations, other mutations such as reorganization, as well as changes in policies and in decision-making structure, were not peculiar to the institutions of higher learning. Similar changes were being introduced into other, e.g. industrial and commercial, organizations. These, coupled with other traumatic developments in the country, indicate the exceptionally turbulent general background against which the organization of our concern will be depicted.

CHAPTER NINE

The Setting of the Study

To gain a feel for the specific setting of the study, we will first look at the composition of the University. The parts which formed it were responsible for several of the issues which arose, including the impetus for the Innovation. We will then review some of those issues and the way the management teams dealt with them. Finally, we will turn to the process of the Innovation itself.

9.1.The Composition of the University:

The University was initially formed with the merger of two private and public universities (to be called Rasaane and Naame respectively), four independent faculties (i.e., they were not parts of universities), four schools and one institute of higher education. To those eleven institutions, another in-dependent college was added in 1982.

Rasaane had 25 education centres and two companies. Naame owned four education centres. These centres and companies, which were scattered all over the country, were put under Ensani's control as well.

Almost all the constituent institutions were specialized in certain subjects. These sometimes overlapped with one another

extensively. They offered somewhat different curricula and used different academic and administrative procedures. However, the two universities were particularly distinct from the other institutions not because of the foregoing differences, or because of their status as universities, but because they had more academic as well as non-academic staff, larger numbers of students, and, more importantly, because they used a different system of education; that is, distance learning (DL).

The DL systems used in the two universities were different. Rasaane depended upon an Open System, which was similar to that of the Open University in the UK. Naame offered correspondence courses (for a brief explanation of these, see Appendix C). The latter used a conventional face-to-face learning system as well. Table (2-1) depicts the composition of Ensani after the mergers.

Table 2-1. The Composition of Ensani

The constituent parts	No. of academic staff	No. of non-academic staff	No. of students	Sytem
Rasaane Univ.	290	556	3100	DL(Open System)
Naame Univ.	120	94	8000	DL(cor-respondence) & CS
10 smaller ins-titutions	90	305	4000	Conventional face-to-face
Companies	-	200	-	--
Total	500	1155	15100	

Source: The University records

All the merged institutions were accredited and several of them

could grant degrees ranging from associate diploma (two year junior college degree) to Ph.D..

With one exception, these institutions could only admit as their undergraduate students the applicants who had already been screened and sent to them by the Ministry. The exception was Rasaane, which was allowed to use its own criteria for admission of its students. The nationwide screening was carried out by the Ministry, which used general university entrance tests administered to the applicants once or twice a year.

One of the criteria for the allocation of students to universities was the score they made on the entrance examination. Normally those who had achieved lower scores were assigned to some of the institutions that subsequently became the targets of the mergers, and this had an adverse effect on the public image of the new constellations. Ensani was no exception. The status of Rasaane and Naame as universities in the Ensani constellation could not make its image any brighter in academic circles. Those two universities were identified with distance learning, which most academics regarded as incapable of yielding high quality outcomes. The relatively high reputation of the two or three small institutions among the University's constituent parts could not improve its public image either. Those institutions were totally overshadowed by the others, especially by Rasaane and Naame. By considering the elements which distinguished Ensani from other

universities, the significance of its public image can be appreciated better.

The merged institutions, with over 15000 students, made Ensani the country's second largest University. But two other factors distinguished it not only from the other four universities, which had been formed by mergers, but also from all other universities in the country. It was distinct from other sister universities in that the latter were specialized in certain related subjects, whereas Ensani had to accomodate courses as varied as Persian Literature and geology. It was distinct from all other universities because it was the only University with distance education. The full picture of Ensani can now be developed by associating the distinctive features of this University with its public image, which together made it the most conspicuous higher learning institution in the country.

9.2. General Issues in the Formation of the University:

The main issues that presented themselves in the earlier stages of the formation of the University can be better recognized when the purposes of the mergers are recalled. The two broad objectives were (1) to achieve a high quality education by creating a pool of full time academic staff, by encouraging and directing research activities, and by exerting control over teaching activities so that higher standards could be met in a more reliable fashion, and (2) to achieve a high degree of efficiency. Efficiency had become important because all higher

learning institutions were to depend upon public funds for their operations since education at all levels had been made free after the Revolution.

Only a few of the merged institutions' staff thought effectiveness, defined in terms of "high quality teaching and research", and efficiency, defined in terms of "economizing on resources", could be attained by the mergers. The mergers, however, were resisted, not by all, but by the members of the two universities. Almost all the academic staff believed the thrust for efficiency would call for accountability which would in turn restrict the academic freedom that they saw as integral to their work. Moreover, the deans of those institutions would lose their positions, a prospect they did not like at all. While, of course, a number of the members of the less reputable independent colleges and schools could console themselves with the thought of being identified with a large university, many of the members of the two universities, especially of Rasaane, did not seem to share that feeling. Liked or disliked, the mergers seemed to many of the members as entailing their loss of identity, as they had already identified themselves with their own individual institutions.

The staff of the two universities adopted different strategies to cope with the situation. Whereas many of the members of Rasaane showed their disagreement by campaigning against the mergers, some members of Naame tried to control the situation by winning higher positions. The resulting chaotic state of

affairs was exacerbated by the fact that the first president of Ensani had come from among the members of one of the independent schools. Although he had based himself in the administrative building of Rasaane, he appointed only three members of the two universities to the key positions. The rest of the key office holders came from the other institutions.

Having sensed the president's determination, almost everybody was sure that relentless measures would be taken towards the fulfilment of the objectives of the merger. It was obvious that many personnel departments, etc., that were needed by the institutions before the mergers, were not required anymore. This would mean redundancy and the giving away of some of the facilities. It also meant relocation of staff, both academic and non-academic. All this could only heighten the fury. The dissenters strived not to let Ensani settle down when it was finally formed. And because classes were closed, waiting for the new curricula to be developed, the academic staff especially, had enough time and energy to spend on disruptive activities with little worry about what form those took.

The conformists, however, could not assist with a quick establishment of order in the University. Having mostly come from the private institutions, they were isolated, unorganized, and powerless individuals. Not only had they had difficulty dealing with the situation informally, but they were not well-versed with the formal mechanisms whereby public organizations - of which Ensani was now one - were regulated.

Besides, they were not sure if their attempts at the restoration of order was worthwhile. They were expecting Ensani to merge with one or more of the other universities at short notice. Lack of an organization chart was another liability; the participants did not know what their positions were, or would be.

The whole situation presented itself as an arena of warfare, a state in which hardly anyone could concentrate on anything let alone a new education system. The most important and urgent innovation would be a cement that could hold the whole system, with all its parts, together.

Bearing in mind the above two pictures, depicting the outward and to a lesser extent the inward dimensions of the formation of the University, we shall see how the top administrators proceeded to bring the situation under control to set the stage for the introduction of the Innovation in question.

9.3.The Administration of the University:

It was not only the administrators of the University that had to come to grips with the highly turbulent state of affairs; lower echelons had to manage the situation as well. However, because it was mainly the activities of the presidents and their teams that bore distinctively upon the unfolding events, including the Innovation, attention, for the most part, will be focused on the managements' activities.

A team, consisting of the president, vice-presidents and two students, who could be appointed after Ensani's legal student body had approved of them, took over the University. The team, which was called the Management or Administrative Council, had to organize all Ensani's activities in the absence of the University's other legal bodies such as the Senate. Although some members of the Council changed several times and the number of the tasks it had to perform were reduced as the University became more and more organized, its form remained almost unchanged. Moreover, because the two student members held their membership over a relatively long period, the Council kept some degree of continuity.

Five presidents took charge of the University between 1980 to 1985. Although each president appointed his own vice presidents (VPs), not all those who filled the VP positions were new. For example, the second VP for administration and finance was reinstated in the same position by the third president after that VP had been installed as the dean of one of the faculties by the second president. He was also called back by the fifth president to do the same job only five months after his resignation had been accepted by the fourth president.

The roles of the fourth president and of his team members, who were involved in the Innovation, will be discussed fully later. Because the events that transpired under the first three

presidents influenced the ensuing processes, including the new DLS. A brief review of the situation under these individuals will follow. However, the role of the fifth president will not be discussed because it falls beyond this study.

The first president assumed office a short while before the mergers took place. He belonged to one of the independent colleges which were to be merged. Having taken over, he, like other university presidents, appointed two students as the members of the Administrative Council. At the beginning, such Councils were conventional rather than being based on any charter. Therefore, the roles and the amount of power of their members remained to be decided by the Policy-makers, who used to lay down some of the administrative procedures that had to be observed by the higher learning insititutions in the country.

The three member team, to which two were added later, had neither the time nor enough experience either to use the expertise of others or to come up with a reasonably well-planned strategy to carry out the merger activities themselves. In view of the resistance that was being shown to those activities, not enough assistance was secured from the members of the merging institutions either. Although tactless and extremely difficult, the activities were pursued relentlessly during the whole period of the first president. However, they were never consummated in his time. His office was terminated with the mass assassination of the country's 74 high ranking

officials, of whom he was one.

His nine months of service was spent dealing with the above activities and bringing the critical situation under control. Nothing much changed in the education centres in other cities, but all the academic sections of the merged institutions in Tehran were tentatively consolidated in three provisional faculties, in which most of the academic and some of the non-academic staff were based. The rest of them and the remaining academic staff were kept in the administrative building and a few staff were dismissed. Although some differences emerged among the members of the Administrative Council, they did not develop into serious conflicts. The members had to join in efforts to handle the crisis which surrounded the Council.

The second president accepted the job only on the condition that he could serve as a temporary acting president. He was totally opposed to the idea of a university being run by a council. He believed that if only one person, the president, were to be accountable for the activities and outcomes of his respective university to the Ministry, which in fact was the case, that person had to have a prerogative to exercise when this was deemed prudent. But not only was the presidents' accountability not reduced, the Ministry gave more say to the other members of Administrative Councils. This led to the second president's hasty resignation. During his office, which lasted only 4 months, time was mostly spent managing daily routines.

When the third president took over, it was hoped that he would stay long enough to restore order and remove doubts about the future of the University. However, his period of service lasted only eleven months, during which little was achieved by way of realizing expectations. Indeed, the events that happened in this period were to some extent contrary to the expectations.

In this eleven months, a great deal of laboratory as well as other facilities, such as 16 buildings, were given away, one of the companies was dissolved, and an agreement was reached with another university for the merger of one of Ensani's member institutions with that university. Some of the staff were transferred to other organizations as well. Moreover, a plan was prepared for the transfer of some of the DL students to other universities. This plan was approved by the relevant authorities but was not carried out in that period.

Although much of what was done was more or less in accord with the policy-makers' initial decisions concerning the gradual merger of all the merged institutions, these moves only exacerbated the already tense situation. One major reason for this was that no comprehensive strategy had been developed for the implementation of the decisions and almost all the members were deeply concerned about where they might be sent as well as when and under what conditions.

Because these members had hardly ever been consulted before a decision was taken about them, they could not help being restless. Despite all this, tension was not demonstrated by strikes and sit-ins anymore. Most of the individuals who used to organize those types of activities had left the University, and the general public supported the administrators in containing any disruptive activities. Moreover, an organization chart, which was proposed by the University and implied that 400 of the academic and non-academic staff would be made redundant, was to be approved by the Ministry. Therefore, a number of the staff were preoccupied with what the future would hold for them, trying to avoid activities which could make them candidates for redundancy. Nevertheless, resentment was not totally absent; it was expressed by passive resistance, that is, total apathy and lazing the time away, a state that was nicely exploited by rumour-mongers.

As to the Management Council, serious conflicts developed regarding the ways things were being done, particularly during the latter days of the third president. The two sides to the conflicts were the president and his administration and finance VP. Although the former eventually terminated the latter's office, he himself was forced to resign by the supporters of that individual.

All this happened at a time when public pressure was building up against the continued adjournment of teaching programmes in the universities, while at the same time new curricula as well

as some of the adaptation rules and procedures were being prepared for the imminent resumption of the classes.

9.4. The Initial Activation of The University

Although Ensani appeared to be functioning, it was not operative. It was not in a state in reality to yield any effective outcome. Many of the participants, as well as other observers, strongly believed that the University could not open the door of even one of its classes to its students. Apart from the general state of affairs outlined above, the faculty buildings were a shambles. The roofs leaked, the heating and cooling systems did not work properly, and junk was piled up to the ceilings in the refectories.

When the fourth president took over, the University was like a broken ship that had been left at the mercy of high seas in the form of all kinds of problems. Perhaps the most important of these was an almost universal lack of willingness to cooperate. Indeed, two of the vice-presidents, who had only been contemplating their resignation, were now insisting on leaving immediately.

No sooner had he assumed office and made sense of the situation, than the president realized that no smooth progress could be made in the direction of either merging Ensani with other universities or otherwise sustaining it as a healthy institution, given the state of exasperation that prevailed.

He believed that that feeling could only be overcome by securing the cooperation of those individuals who had a deep knowledge of the situation and could influence the climate of stagnation. But finding such people, whom he wanted to select from among the Unversity members, and encouraging them to cooperate, was no easy job. He decided that this could be done if the participants' confidence was restored.

In pursuit of that initial objective, he thought three measures had to be taken quickly; (1) filling the unoccupied positions to show that Ensani was active; (2) showing the members that they were valued and needed by not excluding the 400 positions from the organization; and (3) meeting and talking with as many of the members as possible to identify suitable appointments. To the president keeping those 400 individuals was necessary, not cosmetic. He was convinced that the University would need a lot more staff to prepare for the resumption of work than it had been thought would be needed at the time of stagnation, not to mention the fact that more staff would make merger with Ensani more attractive to other universities, which were the most understaffed of all organizations in the country.

Having made a few appointments at the lower levels and dropped the redundancy plan, he replaced all the three VPs and two of the three deans of the faculties. The heads of the Centre for Research and Educational Planning as well as the Bureau for Distance Learning, which were regarded as two of the most important and the least appreciated constituent parts of the

University, were replaced as well.

A high level of respectability in the eyes of colleagues, outside connections, a fair amount of previous experience in administrative jobs, and dedication, were some of the criteria which guided the selection of the appointees. Care was also taken to ensure that these people would be able to work together harmoniously. Therefore, when an individual was offered one of the positions, he was encouraged to suggest his choice of colleagues with due consideration to the said criteria.

Having been through the appointment process, the president set up an Advisory Committee consisting of the new VPs, faculty deans, and the directors of the Centre for Research and Educational Planning as well as the Bureau for Distance Learning.

Although that Committee was to advise the president, it acted more or less as the Administrative Council. Not only were almost all its meetings chaired by the president himself, but also the two remaining Council members were encouraged to attend those meetings. That one member of the Council rarely attended the meetings and two others participated sporadically did not cause any problem with respect to the decisions that were made by the Committee. The conclusions that were reached in its meetings were subsequently considered by the Administrative Council, which frequently acted more like a

rubber stamp with respect to the Committee's decisions.

The Committee was first assigned the task of drawing up a strategy for merging Ensani with one or more other universities. But soon it was realized that even if the University was to be merged, it should first of all resolve some of its many problems. The resolution of the problems called for the full and proper activation of Ensani. This seemed to call for a good deal of planning, organizing, coordinating, and controlling and meant that the members of the Advisory Committee had to work very hard over a relatively long period.

The Committee came up with a list of pending jobs; procedures to be followed across the University had to be harmonized, department heads had to be appointed, etc. One of the items on the rather long list was, of course, the clarification of the the DL students' position.

CHAPTER TEN

The Initiation Phase

10.1. The Realization of the Need for a New Higher Learning System:

Up until the beginning of 1983, time and energy was mostly being spent on the merger activites and on managing day-to-day issues. If anything was done on the academic side, it had to do with research. When it came to examining the possibilities and resources needed for the commencement of teaching activities, attention was focused on the CS students. Little attention was being paid to DL students because the Policy-makers, particularly the CCR, had ruled out the possibility of a continuation of the two previous DLS's in the country and the Ministry had decided to assign the DL students to other universities.

The attempts to win the favour of the several universities contacted for the admission of those students were only marginally successful; out of the first 1600 candidates, a little more than 300 were accepted. Moreover, the universities that were approached for merger declined the idea mainly because they were not interested in such students. Therefore, the University had to pursue more forcefully the contingency plan that had been drawn up by the Advisory Committee. The plan, aimed at full activation of Ensani had the merger negotiations failed, included finding some ways of tackling the

DL students' problem.

One way of solving the problem would be for the University to set up totally face-to-face classes for these students. But it did not have all the facilities and the resources it needed; a good deal of what it owned had already been given away. The Ministry would not provide the University with the resources required mainly because Ensani was regarded as only a transient phenomenon at that time. Another way of coming to grips with the situation was for the University to carry on with the old systems. This also seemed impossible, because the CCR would not approve of those systems and even if they did, such possibilities as access to the national television network for showing educational films, etc. were not available to the University any more. Hence some other solutions had to be sought.

Probably either the Council for Cultural Revolution, or the Ministry, or both, would have come up with a solution had there not been so much pressure on them for the immediate launch of the Conventional System in the universities. But in those circumstances, both the Ministry and the CCR were so busy with what would affect 93 percent of all the students of the country, that they could have hardly attended to the remaining seven percent; the distance learning (DL) students.

Although the top administrators were not expected, at least at that time, to come up with a solution to this problem, which

had been created by the Policy-makers themselves, they decided to take the initiative to preempt any undesirable solution that might be imposed on them.

10.2.Information Gathering:

As a first step towards developing a solution to the problem, two sets of facts and data were felt to be needed. The first set had to do with the underlying reasons for the Policy-makers' rejection of the old DL systems. Indeed, it was not clear whether the Policy-makers disapproved of all the various modes of higher learning that were offered under the general rubric of distance education, or were only against the DL systems previously used in the country. It was also not known if they had concrete evidence to indicate that DL was inferior to a conventional learning system.

Moreover, the Policy-makers' unfavourable attitude towards the DLS's may not have had anything to do with the nature of such systems so much as with what had been associated with them. In view of the strikes and other disruptive activities that had taken place in Ensani, it was not surprising if the University and what it stood for had been associated with trouble-making. If this was the case, the rejection of the DL systems could mean a symbolic rejection of trouble-making.

A new solution to the DL students would have to be ratified by the relevant Policy-makers before it became effective because

of the previous decisions they had taken about those students. But if questions such as the ones mentioned above, or whatever else that had prompted the Policy-makers to disapprove of the old DLS's, were not raised and properly addressed, the Policy-makers' response would be unfavourable.

As preparations for answering such questions and to have a solid foundation for the development of a solution, the Advisory Committee thought it needed the second set of data. This included such things as the rationale behind the introduction of that learning system in the country years before, the extent to which it had been helpful and so on. The reasons why other countries adopted such systems, the types there had been, and the degree of success achieved in the use of those were considered helpful as well. It had also to be established if any new plans had been made, since Ensani had been set up, concerning the existing DL students. It was likely that some individuals concerned with these students might have drawn up some plans to address the problem.

Having decided on the types of information needed, two groups of two were assigned to collect them. Whereas one group had to extend its contacts with the Policy-makers, another had to look around inside the University. Much of what they required was known to be available in the different rooms and files of the University itself.

In the contacts with some members of the CCR and its

committees, the barriers to the transfer of the students to the
Conventional System were explained and they were asked to offer
a solution to the problem. Having realized that their earlier
decisions concerning the problem had not been feasible, the CCR
members implied that they might consider a new DL system if
this was limited to the first and second year students. It was
also discovered that DL, in general, had been rejected simply
because it was prejudged as an inferior mode of teaching and
learning, although not much was known about its nature.
Indeed, the University's request that a specialist be sent to
assist a committee, that it was going to set up to develop a
new system, was denied on the grounds that the CCR did not have
anybody that knew much about DL let alone a person that could
act as a specialist source of advice. The bad public image of
the University also accounted for the systems' lack of support,
but this did not seem so critical.

Based on the information that was thus gathered, the Advisory
Committee set out to formulate a new DL system.

10.3.Formulation of the System:

The Advisory Committee assigned a three member team to come up
with a system within the above-mentioned framework. Dousti,
the vice-president for academic affairs, and the new head of
the Distance Learning Bureau, were to be two members of this
sub-committee. They would be working with the System directly.
The previous head of the Bureau was to be the third member. He

knew more than anybody else about what had already been done concerning the DL students, staff, etc., in the University. This team had to present the result of their work inside six weeks. The short time that was allowed was because the failure of attempts to transfer some of the DL students to the conventional learning system had been spread around, thereby making the rest of the students more concerned about their future. Hence they were putting ever-increasing pressure on the University, as well as the other related bodies, to clarify their position. This was actually paralysing the already problem-ridden University.

Not long after the sub-committee had started work, some disagreements began to surface in it. Two of the members often complained to Modeeri, the president, about the third member, Dousti, that he was not contributing as much as he should. In turn, Dousti complained that the other two members did not listen to his suggestions. The situation was leading to a point where the completion of the task seemed unlikely, even beyond the deadline.

Modeeri found out that Dousti, having several other jobs to do in connection with the CS students, as well as other problems in the University, could devote only a little time to take part in the meetings of the System-planning sub-committee. Dousti, however, expected the other members to follow his directions, perhaps because he was in a position of higher authority. But the other members considered the development of a system the

prime task of all of them and never imagined that, in the team, the degree of hierarchical authority mattered.

In any case, the problem was resolved to some extent by letting the two who could spend more time go ahead with the work while allowing for the new inputs from the third member to be incorporated into the scheme when it was first drafted. The way the conflict was settled was not thought to be very effective, but a full reconciliation was necessary because they would have to work very closely together when it came to implementing the System.

Not only did the president himself try to ensure the reconciliation, but so also did Vahedi, one of the Advisory Committee members. Vahedi, the dean of one of Ensani's faculties and a psychologist, seemed very sincere by nature. Although his easy-going attitude towards issues was sometimes frustrating to his Committee colleagues, his sociability and amiability had made him indispensible to the group. Unwittingly, he had turned out to be managing emotive issues when they arose in the Advisory Committee. The joint efforts of both Modeeri and Vahedi helped the sub-committee to complete its task in a fairly friendly climate almost within the time frame that had been set for it.

Having been prepared, the Programme included almost all the members' suggestions as well as the data that had been gathered. However, it was initially criticized for its tones.

It sounded as if its proposers did not mind in the least if it were not approved or adopted. The overtones of the Programme were therefore changed to appear rather more positive and to indicate that its adoption mattered.

Not all that was included in the Programme concerns us, but to have an idea of what the DLS was and how it differed from its two predecessors, all the three systems are summarized in Appendix C.

10.4.Attitude Formation:

Having been finalized, the Programme was presented to the Advisory Committee for consideration in the first half of 1983. However, the events that were transpiring at that time prevented the Committee from spending a fair amount of time to reanalyse the Programme and determine its possible implications.

Early that year, the Ministry announced that universities would resume their teaching activities shortly. The reaction to the news was a mix of joy and exasperation. Although everybody wanted to see classes open, there were only a few universities that could respond to that demand confidently. Almost all the university presidents felt that they needed at least another year to be adequately prepared. But because the resumption of teaching activities were phased, with science and medical students to be the first to attend their classes, everybody was

relieved. As far as Ensani was concerned, it would still have some time to settle down. More than 80% of its students belonged to arts courses.

The relief of having more time to work things through was transient; the first classes that were opened turned out to be like a piece of snow that when it starts rolling down a mountain gathers so much mass that stopping it becomes almost impossible. Upon the commencement of the first classes in science and medicine, other students and the general public pressed so forcefully for the resumption of work for the rest of the students that little could be done to keep the doors shut. Hence it was announced that the tentatively excluded students would join the others early in the October of 1983. For the CCR this meant that the curricula for the remaining courses had to be finalized quickly and a decision had to be taken about the DLS before the 45 to 60-day university summer holiday (22nd June to 6th September). For Ensani, the least that this meant was a hasty submission of the Programme to the CCR, reorganization for accomodation of the relevant students, and adaptation to the new rules and procedures.

All these matters were brought up in both the Advisory Committee and Administrative Council meetings. In the heated discussions that were provoked by the immensity of the task envisaged, members were divided on the possibility of doing the job within the set time limit. Some believed that if the University accepted the resumption of teaching activities on

the date expected, it would only be embarking upon the impossible. Some others maintained that Ensani, like other universities, had no choice, because nobody could stand the ever escalating public pressure. Disagreements emerged as to the way the University had to go about tackling the situation. But they were resolved when Mosheeri, a highly regarded and pragmatic member of the group and the dean of one of the faculties, suggested that the University could go ahead provided certain conditions were met by the Policy-makers. One important item on the list of the conditions was that the CCR had to send the curricula for courses offered in that University within a month.

The conditions that were drafted in one of the meetings were sent to the responsible Bodies, although waiting for a reaction certainly did not mean nothing was done. Priority was given to the CS students because they were to resume their classes before the others. Efforts were thus geared to the preparatory activities for the implementation of the new CS, while it was expected that the initiation process of the DLS should carry on without interruption.

Although the Advisory Committee's attention had now shifted to the Conventional System, the CCR seemed very eager to consider the new Programme. Having announced that all classes had to start, the CCR intended to include the DL students. Therefore, the president received one telephone call after another, as well as letters, urging the quick presentation of the Programme

to the relevant committees of the CCR. The most relevant committees were the Committee for Development of Curricula for Arts and Social Science Courses (CDCASSC) and the Committee for Policy Planning (CPP).

Moreover, in the personal contacts that some of the Advisory Committee members had with the members of the CCR and CDCASSC, the urgency of the matter was being emphasized by the latter. Of all these contacts, the ones made by the chairman of the CDCASSC and an academic member of the University, Dr. Kari, were the most persistant and vexing, if not surprising.

Everybody knew that Dr. Kari, like many other academic staff of all universities, that were encouraged to cooperate with the CCR, was assisting some committees and sub-committees of the CCR. But other Ensani members, who were even more closely involved in educational policies at the CCR establishment, should have probably been more interested in the DLS than Dr. Kari. However being busy with more urgent work, the Advisory Committee did not care to find out why he was pursuing the matter so persistently.

Taking into account the degree of interest that was being shown in the DLS, the Advisory Committee devoted part of one of its normally lengthy meetings to a review of the Programme.

Regarding the form of the Programme, the most important drawback noted was that it was very long. The Programme

consisted of more than 70 pages. It was decided that this drawback had to be rectified by preparing a short abstract to be kept separate for presentation to the Policy-makers. But more important were two other aspects of the Plan. The first was that the System sounded more like a conventional system than a DL, at least at the outset when the self-teaching materials would not be ready. The second was that transferring the DL students to a conventional system upon their completion of 70 course units, which was a provision of the Programme, would be next to impossible. The CCR had already made it clear that they would not agree to higher level students studying in that System, the Committee was therefore convinced that that was a problem to be solved by the Policy-makers themselves. As to the first problem, the self-teaching materials could have been ready had the University been given enough time.

Perhaps what could have had a definitive effect on the members' attitudes towards the new system had to do with a well-defined implementation strategy and the resource requirements of the Programme, two of its aspects that had not received adequate attention. It seemed as if everybody regarded the Programme, more or less, as a preliminary plan intended for the familiar-ization of the Policy-makers with DL in general and with a DL system in particular. Although it was also meant to show the way the DL problem could be solved, a detailed implementation strategy appeared to have been seen as only subsidiary. It was thought that the Policy-makers would be more interested in the generality of suggestions than their specificities. Not fully

aware of the implications of their inadequate treatment of the implementation strategy and overburdened with all kinds of problems, the Committee members thought of getting at least one thing out of the way; they favoured the System unanimously.

The Plan, along with its abstract, which was prepared later, met with the Administrative Council's approval as well. Nevertheless, two of the members were rather against the admission of new students into the System and indicated that they wanted to see the Programme discontinued once the existing students had completed 70 course units.

10.5. The Formal Legitimation of the System:

After the top administrators' approval of the Programme, several copies were duplicated, together with its abstract, so that a copy could be sent to each of the committees and individuals in the CCR and Ministry. The top members of the CCR and Ministry, i.e. the Policy-makers, depended, apart from the offices and individuals that normally reviewed such things as the DLS, on four other committees which they had set up. As such a proposal had to go through even more checkpoints before it had reached the ultimate Decision-makers.

The letter that accompanied it listed the recipients of the Plan so that one recipient did not, as they always did, send his copy to the others. Sending the letters and copies of the Programme through the formal communication channels would not guarantee their quick arrival at the checkpoints, much less

ensuring the clearance of the Programme at each stop, viz. planning committees, curriculum committees, and advisors. Something more had to be done to push it forward; road-blocks had to be pushed aside when possible and if impossible the Progamme had to be helped over the hurdles in some way.

In an Advisory Committee meeting, it was decided that two of the members, who had closer connections with the members of the two committees of the CCR, should keep an eye on what would be going on in those committees relative to the Programme. They were to explain the aspects of the DLS that might be unclear to the relevant members. They also had to report back the progress of work and also any shortcomings that might have been singled out by the CCR committees. A knowledge of possible drawbacks, expected to be pointed out by the reviewers; could help the Advisory Committee members to take corrective action quickly before the deficiency was used as an excuse for the rejection of the Programme. It was believed that even a minor shortcoming could seriously jeopardize the approval of the Programme.

The strategy to safeguard the DLS was rewarded. Some days after it was sent through the official channels to the CCR, the Ministry, and their relevant committees, it was found out that some individuals had not yet received it. Hence a member of the Advisory Committee took more copies of the Programme to the relevant people. Later, it was also discovered that the abstract, which had been sent separately, had not been received

by anybody, or if it had been received, it had disappeared mysteriously. Therefore, two more members of the Advisory Committee were engaged in making sure the Programme reached the incumbent individuals to review it well in advance of any decision-making meeting. Strange as the situation was, repeated loss of the Programme or of the abstract was always blamed on the web of bureaucracy.

Signals from the CCR indicated that perseverance was paying off. The two committees of the CCR invited the representatives of Ensani to the meetings that they had each arranged for discussion and finalization of the Programme. It was only in the meeting of the CDCASSC that it was realized that Dr. Kari, the University member of academic staff who had pursued the Programme persistently and had wanted it be sent to the CCR, preferably through him, had so established himself in this committee that he now acted as its deputy chair. His support would also have to be won by Ensani representatives.

He turned out to be against the Programme, indicating that, according to his calculations, its implementation would require extortionate financial resources. He also implied that <u>his plan</u> would be the effective solution to the problem of the DL students.

Despite his outright opposition, the University represen-tatives' explanations were found sufficiently convincing. Another programme, which had been offered by Dr. Kari, had left

some critical questions unanswered. Hence the committee favoured Ensani's Programme.

The University representatives had little difficulty in winning the favour of the CPP, the Committee for Policy Planning. The chair of the first committee was a member of the CPP as well. The chair of the CPP seemed to have read the Programme carefully and been thoroughly briefed by some members of the Advisory Committee. Having therefore displayed a favourable attitude towards the DLS, he prepared a letter containing the positive comments of the two committees.

Although what had emerged up until then was promising, the Advisory Committee was not yet sure that the final decision would also be favourable. Accordingly, it was arranged that some Committee members maintained their contacts with all persons that might be present in the final decision-making meeting(s). One aim of these contacts was to make sure that the University was represented in the meeting(s).

Pursuing the matter persistently and emphasizing that the University should be represented in the final decision-making meeting(s) led to the invitation of some of the Ensani people. The strange thing about the invitation was that people who were to represent Ensani were identified by the CCR. Modeeri and two of the Council members were invited directly. The latter were less interested in the Programme and had been much less involved with its development than the other members

of either the Administrative Council or the Advisory Committee had been.

Although it was certain that Modeeri did not want to see those two opponents of the Programme in the decision making meeting, he welcomed the incident, deciding to make the most of their presence. From his contacts with some members of the CCR, he had gained some confidence that the majority of the members would vote in favour of the Programme. Yet, even if something unexpected changed their minds, the University had nothing to lose. On the one hand, an unfavourable verdict might be a blessing because it could shift the burden of finding a solution to the DL problem onto either the Ministry, or the CCR, or both. On the other hand, a favourable vote in the presence of those who were not particularly fond of the Programme, might discourage them from resisting its implementation.

Finally, four representatives of Ensani attended the meeting. The Ministry was represented by the Deputy Minister and the Vice-Minister for academic affairs. After Modeeri pointed to the problems and the failure of attempts to transfer the DL students to the Conventional System, he explained the Programme briefly.

One member of the CCR indicated that the need for a new higher education system was now being felt, because even new establishments or an extension of the existing universities

could not be introduced in such a short time as to respond to the growing demands for university graduates at different levels. Another CCR member approved of what was being said, but maintained that even if DL was the answer to this national problem, it would not be a suitable system for all courses. However, he maintained that one of his colleagues and himself had once thought that such things as languages could be taught by this system.

Although one of the two Ministry representatives spoke little, what he said was in favour of DL. But his friend gave such an exaggerated account of the advantages of DL that even the University proponents of the Programme thought they were hearing about something new. Besides enumerating its other advantages, he indicated that with a DL system, no refectories or dormitories would be needed. According to him students would not need to attend a university for education, rather education would go to them. Consequently less financial resources than were required for a conventional system would be needed for that system.

He was mainly aiming at the possibility of absorbing more students into higher education, which had been a persistent concern for the Ministry and for society at large. However, the raison d'etre of the CCR was enhancement, not of the quantity of students, but of the quality of higher education. One of the CCR members expressed his impatience by saying that however good DL might be, he did not understand how, for

example, students could be taught to use a syringe in practice from a distance. No educational film or written material could teach that effectively. Two other opponents of the Programme, who belonged to the University, asserted that they regarded DL an inferior higher learning system, although they admitted their knowledge of the system was very limited. However, they accepted that DL in general and the Programme in particular might be effective with respect to non-credit courses.

Whatever it was that had diverted some of the participants' attention from the only item on the agenda, Ensani's specific DLS, to the question of DL in general, Modeeri and the chairs of the two committees of the CCR got the impression that the commentators had not read the Programme carefully. It appeared as if the brief explanation of the new Programme, which had been given to almost all of the participants before the meeting, had not been effective either. If it had been, they would have realized that what had been suggested tended to be more like a conventional learning system than anything else, at least in its early implementation stage.

The chairman of the CCP pointed out that the participants had to concentrate on, and deliberate over, the Programme before a decision could be reached. Had it not been for the presence of the chair of Curriculum Committee, no decision might have been taken. Indeed, in the end, no definitive decision was taken because not enough members of the CCR were present for a quorum. However, on the intervention of the chair of the

Curriculum Committee, who reminded the participants of the students' mounting pressure on the CCR, they were persuaded to view the DLS favourably. Indeed, at that time, there was more pressure on the Policy-makers, who were known to have rejected the previous DL systems, than on the University. Three of the Policy-makers and CCR members implied that a favourable verdict could be counted on.

As expected, the Programme which had finally met with the approval of the CCR, was seconded by the Ministry. The written approval of both was sent to the University at last, albeit a good while after the decision-making meeting.

With the formal approval of the Programme, the University could go ahead to implement it. But without a well-planned strategy, the smooth implementation of the Programme seemed impossible. In fact, even with a strategy, the implementation would not be very easy. Cherishing the idea that Ensani would no longer deal with a DLS, almost everybody was obsessed with the idea of a conventional system. This was not the only problem, as we will see later.

During the period when the Programme was in the process of development and legitimation, the merger of a large college, which had a small number of students, with Ensani was finally completed. This enabled space to be provided for the accomodation of the staff of the DL Bureau of the University. Those staff had until then been crammed into a few rooms of the

administrative building.

When those staff moved to the new site, some of the academic staff had to go with them as well. Once those people had settled down in the new building, the place gained the status of a faculty, the DL Faculty, which could now act more independently in dealing with the DL problems of the University. The organization chart of the University was put into effect following this event (Figure 2-1).

After this event, preparatory activities for the resumption of the Conventional System classes began gaining impetus because, as noted earlier, all universities were shortly to open their classes to students. Hence most of the participants who would be involved in carrying out the Programme, tended to put it out of mind when the staff of the DL Bureau were removed from sight. As such, much of the burden of accomodating the DLS was laid on the Advisory Committee and the Administrative Council members. It was against this background that a strategy had to be developed for the implementation of the Programme.

Figure 2-1. The organizational chart of Ensani including the names of the office-holders and the number of the students in terms of faculties in the course of this study.

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                          ┌─────────────┐
                          │ 1-President │
                          └─────────────┘
                                  │        ┌─────────────────────┐
                                  ├────────│ Public Relations    │
                                  │        │ & President Office  │
                                  │        └─────────────────────┘
        ┌─────────────────────────┼─────────────────────────┐
┌───────────────┐         ┌───────────────┐          ┌───────────────┐
│ 2-VP., Academic│        │ 3-VP., Admin. │          │ 4-VP., Student│
│     Affairs    │        │   & Finance   │          │     Affairs   │
└───────────────┘         └───────────────┘          └───────────────┘
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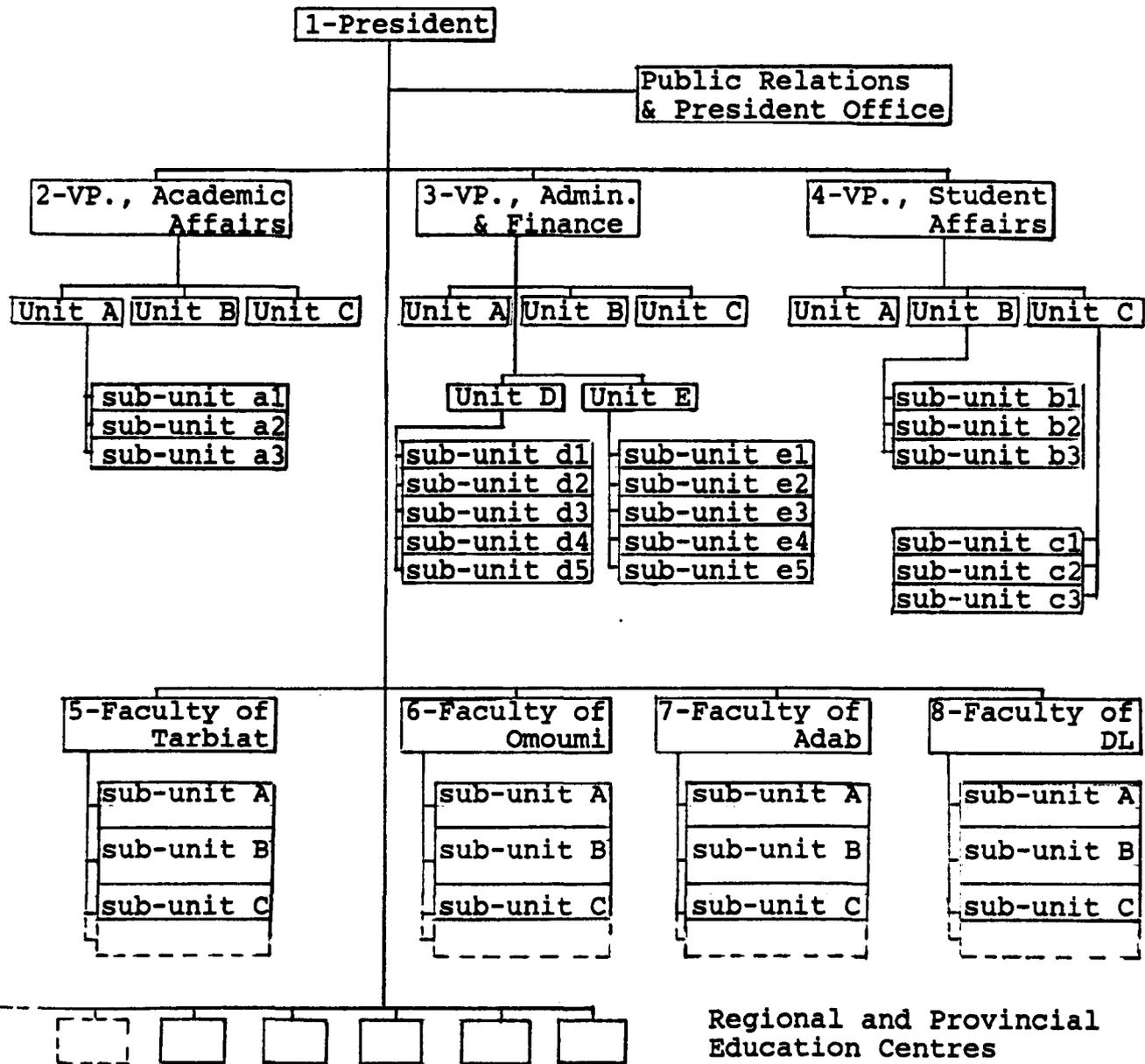

The names of the top office holders mostly referred to in order of the numbering of the above boxes:
1-Modeeri, 2-Dousti, 3-Edari, 4-(a)Pie'ande, (b)Borhani 5-Vahedi, 6-Mosheeri, 7-Noruz, 8-Ameeni

The number of the students in order of the numbering of the faculties: 5-1100 6-1150 7-2200 8-11000

CHAPTER ELEVEN

The Implementation Phase

11.1. The Formulation of the Implementation Strategy:

The conditions that the University had set for the resumption
of its CS classes were being met; the curriculum of one course
after another was finished, as were the procedures for handling
various tasks. Academic staff went over the curricula,
discussed them, giving suggestions for their improvement and
execution. Administrative staff, in turn, did the same thing
regarding the administrative procedures. The new CS called for
small process innovations concerning the coordination of line
and staff, coordination of faculties, etc., to make its smooth
implementation possible. The Advisory Committee members were
expected to attend to all those themselves. But these things
sometimes required the approval of the Policy-makers who, as a
rule, took quite a while to address such issues and
suggestions.

The faculties had to be ready physically in a shorter time than
had originally been planned. All the work that had to be done
with respect to the faculties, policies, rules, procedures,
etc. required a lot of coordination, and all this put such a
burden on the Advisory Committee members that they could only
cope with it by working about 14 hours a day. Even then, they
could not take their summer holidays. In this situation they

could hardly think of an implementation strategy or of the implications of the DLS.

Large amounts of work and constant meetings combined to bring the Committee members closely together, so that about seven months after it had been set up, the proceedings of the Advisory Committee meetings were scarcely recorded. Even some of the important decisions were taken and acted upon informally. Moreover, the members had, by then, established their specific roles as the group members.

The Committee meetings were mostly chaired by Modeeri. Ideas normally came from him and another member, although the others' ideas were always considered as well. After one or more issues had been discussed by the members, it was Mosheeri, the dean of one of the faculties, who framed the conclusions and translated them into action plans. These were usually used by everybody else to organize their activities. The vice-presidents and the others also contributed, but the former were quick in performing their assignments, although the one responsible for personnel and finance was concerned lest their haste might undermine the rules and procedures.

Mosheeri was seen as highly rational and also so indispensible that most of the other members thought nothing concrete could emerge in a meeting from which he was absent, no matter how original and bright were the ideas that might have been put forward by those who were present. Indeed, when he was absent

from a meeting, it tended to be finished earlier than usual. Finally, there was Vahedi, who acted as a mediator and a conciliator. Without him, the meetings did not feel and sound so lively. His role was noticeable in settling the differences that arose in the Programme-developing sub-committee.

Not only had their meetings become informal, so had their individual official contacts. They contacted one another through telephone calls and personal visits on an almost daily basis. Formal letters and memoranda were exchanged but only when they were entirely necessary. Therefore, coordination was hardly a problem.

Although they differed from one another in the degree of their competence and energy as well as in their dispositions, hardly any serious problems emerged with respect to these differences. They tended to tolerate one another's mistakes in a friendly manner, and the more able members tried to make up for the weaknesses of the less able by their strengths. Decisions were mostly taken by consensus rather than by vote taking and Modeeri hardly ever exercised his prerogative as the president. For any achievements, small or large, all the participants were equally credited; it was never a one man show.

Resentments and minor conflicts were taken care of before developing into serious problems due to the esprit de corps and regular contacts. Time was extensively and intensivly spent on matters of common concern. It is unlikely that any of the

vice-presidents ever wondered why none of them had been appointed the deputy president when almost all other university presidents had appointed one of their aides as their deputies.

As for the general state of Ensani, it was still characterized by instability. It was not yet fully settled down. The procedures that concerned academic matters, e.g. maximum units a student can take per term, were being received one after the other. The procedures regarding personnel administration had not been fully enforced. This situation gave both the Committee and the Council, which had in effect become one entity, some room for freewheeling. This happened to be enjoyed by all the members. Nevertheless, there was a general feeling that quick execution of all the rules and procedures could smooth Ensani's functioning. This view was particularly pronounced by Edari, the vice-president for adminisrtation and finance. It appeared as if everybody believed, although not as strongly as Edari, that unless the rules and procedures were enforced, no desirable degree of control, which was sought by every one, could be achieved.

At the outset, it looked as though there would be no problem formulating a strategy for the implementation and the actual execution of the DLS in the friendly and dedicated atmosphere that prevailed both the Committee and the Council. But reality proved otherwise.

In the meeting in which the need for a strategy was put to the Advisory Committee, it was felt that the Programme had to be

re-defined first so that a better sense could be made of it. When it was subjected to an in-depth analysis, much to everybody's surprise it was realized that few members saw the Programme in the same way. Some saw it more as a correspondence system, some saw it more as an open system, and a few regarded it as a mix of the two with more ingredients of a DLS than a conventional system. It appeared as if some other people, not they, had developed the Programme.

This could have prolonged the process of arriving at consensus on what it actually was. However, it was felt that little discussion was necessary when the members were united in thinking that, irrespective of the differences in their repective views of the DLS, the requirements for its commencement would be almost the same. It had been clearly indicated in the Programme that the requirements peculiar to a strict DL system could not have been met within two or three years of the approval of the Programme. Therefore, if it was imperative for the System to be introduced immediately, as was wished by the Policy-makers, it had to be more like a conventional system, i.e., it had to depend initially and to a great extent, on face-to-face teaching.

Having agreed upon two general phases of an implementation strategy, a) starting the Programme like a conventional system, and b) orienting it gradually towards DL, the Advisory Committee tended to address itself to the first phase, delaying the treatment of the second until after the new CS had been

routinized.

For the first phase, two general steps had to be taken. First, the regional and provincial education centres, which were mostly entirely inactive during the time when teaching activities had been halted, had to be set in motion. Second, the resource requirements of the implementation of the Programme had to be calculated.

As soon as the need for the activation of the education centre was brought up, some of the Advisory Committee members appeared to feel rather uneasy. It became known later that the reason for their ill-feeling was that the activation of the centres meant students living within their vicinity would have to attend classes that had to be held in the capital. However, they became concerned lest the academic staff in Tehran, who had identified themselves with the conventional system, might not want to teach the DL students.

Those mild ill-feelings developed into exasperation when the members realized that some of them would have no choice but teach only these students. Some of the courses in Ensani had students only in the DLS and some of the members of the Committee specialized merely in those courses. This first implication of the implementation of the Programme annoyed the affected members, and thus the meeting did no more than define the general direction of the strategy.

Although Modeeri always insisted on a collective attempt at developing a strategy, further events inhibited the possibility of that for some time. Amazed at the members' reaction to what he regarded as the simplest implication of the Programme for the Advisory Committee members, he said to one of the affected Committee members that it was immoral and inconsiderate of them to have worked so actively to initiate a Programme the implementation of which they then wanted to leave to the others. Some of them retorted by saying that they had been acting as outside members of an advisory committee to the president in the intiation stage, but as the members of the University, they did not want to be involved in its implementation.

Modeeri's remarks had apparantly been offensive. The members seemed unwilling to attend the meetings or participate when they were present. Indeed, no meetings could be held for some days and the members contacted the president less frequently. This was most unusual at that time; there was only a little time before the beginning of the academic year and more meetings were needed for coordination. However, the demands of the circumstances seemed more pressing than individual feelings. The members' aspirations for an excellent university, which had been aired by them frequently, appeared to leave little room for grievance to hinder action.

The Advisory Committee resumed its meetings actively when its members were convinced that the CS faculties would have some

problems accomodating the students that were assigned to them. These problems had mainly resulted from the initial assumptions about the future of the University. As was mentioned earlier, believing that the University would be merged with other universities, the previous administration had given several of the buildings away, retaining, apart from the administrative building, only three to be used by the academic and a small number of non-academic staff. Hence had it not been for the merger of a new college with the University, there would not have been the fourth faculty, which was assigned to the DL staff. But because mergers had brought 5000 CS students, of whom fewer than a tenth had been transferred, the three buildings, which were initially arbitrarily assigned as the sites of the three faculties, could not contain the rest of the students. The University officials had been engaged in negotiating the merger of Ensani with other universities and in other activities which had been considered more important than attending to the physical capacities of the faculties. Therefore, the capacity problem had been left to be taken care of nearer to the resumption of the classes.

In the meeting that was intended for finding solutions to the capacity problem, the faculty deans, except for that of the DL, enumerated the problems they would have with their buildings. The suggested solutions, however, were found impractical. All the alternatives advocated acquisition of outside facilities, which required a long time, whereas it was quick solutions that were badly needed. As such, they realized that they had to

draw upon what was available to them internally. Afraid of
provoking a move for the resumption of work on an implementation
strategy for the Programme, hardly anybody liked to
involve the DL people, who barely had any of those problems.
In view of their limited options, they decided to consider
space re-allocation but by taking the DL Faculty building into
account as well.

No sooner had the site re-allocation issue been finally
settled, than the staff, including the academic members, who
were formerly assigned to the provisional faculties, had to be
reassigned to their right places.

Reassignment of the academic members to the new sites caused
four of the Advisory Committee members, of whom two were not
enthusiastic about the Programme, to end up in the DL Faculty.
These two members, like some of the others, had been arbi-
trarily, though tentatively, assigned to one of the conven-
tional system faculties of Ensani. They could therefore use
the nature of that system, with which they had identified
themselves, to justify their lack of interest in the Programme.
However, now that it was certain they had to work with the DLS,
they seemed more inclined to participate in the decisions
bearing on the System's implementation, even if they were only
barely interested. Although the grounds were now set for all
the members to cooperate towards developing an implementation
strategy, it seemed they could not yet do so before the CS
courses had resumed.

Although the administration of the University did not mind much if Ensani could not open its classes to its CS students in the October of 1983, all activities and energy were directed to making this possible. Almost all Ensani's participants in Tehran had committed themselves to meeting a deadline, October, which was the date by which all other universities were expected to begin the courses they were to offer.

Meeting the deadline was not all that easy considering the state the University had been in in previous years. But the participants' efforts were rewarded. Much to everybody's disbelief, a University that they had thought to be dissolved, or to be unable to open the door to even one of its classes, resumed most of its CS classes.

The joy of success for both the Administrative Council and the Advisory Committee was certainly great, but they had more work to do; the new CS had to be routinized and the DLS, with nearly eighty percent of Ensani's students, had yet to be implemented. This required a strategy.

Having been through the frenzied period necessitated by the last minute preparations for setting the new CS into motion, the Advisory Committee set out to complete its work on delineating the strategy. This time, though, the Committee seemed more committed. The sense of achievement that had been created with the commencement of the classes had revived the

aura of camaraderie. The high spirits, that tended to be eroded when some implications of the Programme had begun to surface, were now alive and could make teamwork enjoyable again.

While some members of the Committee were engrossed in the CS-related activities, the ones related to the DL collected as much data as they could about the human and other resources available at the education centres. Based on these and some other data which had been gathered, a strategy was drawn up rather quickly and the resources that would be needed were determined.

According to the strategy four centres had to be shut down. Their personnel had to be assigned to the nearest alternative centres. In their place, four new centres had to be set up in some other locations. The DL Faculty had to be assigned to the regulation of the centres. Most important of all, the DL Faculty, which was suffering from a shortage of personnel, had to be manned as quickly as possible or else preparations could not be made for the implementation of the Programme.

With the strategy at hand, attempts were directed at acquisition, allocation, and reallocation of the needed resources.

11.2. Resource Acquisition, Allocation, and Reallocation:
Virtually all sorts of human and financial resources were

needed. Even then, the Programme had to be quickly implemented so that the University could be relieved of the DL issue. Looking outside for the needed resources required some time, which was itself the most scarce resource. Therefore, Edari, the personnel and finance vice-president, was assigned to find out about possible uncommitted personnel and budget that could be allocated to the DLS.

His report was certainly disappointing, as almost every body could have guessed from the circumstances. The implementation of the new CS was so demanding that it had apparantly used up all the resources, even the 400 staff who had once been meant to be redundant. The administration was also convinced that there might be no slack even when the CS had been fully routinized. It was therefore suggested, in both the Committee and the Council, that if the University had operated efficiently, some resources could have been saved to be used where they were needed. This suggestion directed attention to an area with which hardly anybody had been seriously concerned until then. The thrust for efficiency could create a technical problem, if nothing else, as to the way this could be achieved. To avoid that problem, the Advisory Committee decided to avoid laying down a stringent efficiency plan.

A meeting was called for the members of the Administrative Council, the deans of all the faculties and the heads of the other units, as well as the sub-units. Here the need for operating in an efficient manner was brought up. To some of

the participants, who were more academically oriented, the concept of efficiency seemed totally alien. Others, who were quick to see the implications of the discussions, seemed to shun being involved, trying to act as if the issue had had nothing to do with them. A few, who sounded well versed with this thing, put on a bold face, saying rightly or wrongly that they had already been operating efficiently. One of the latter persons was the dean of one the faculties which everybody knew was understaffed and was yet operating satisfactorily. The other was the head of the finance sub-unit with 36 members, of whom 24 were supernumerary, according to the knowledgeable people in Ensani.

Later it was found out that some of those faculties and other units, that were either overstaffed or adequately staffed, had relied more than the others upon their staff working overtime. But, at that time, in the absence of concrete data to indicate the extent of their efficiency, the meeting was just spent on emphasizing the resources that were badly needed and on encouraging the participants to do their best to give up some resources by working as efficiently as they could.

Although all the participants promised to cooperate, they seemed not to be prepared to do so. Edari received letter after letter followed by frequent telephone calls from several of the units asking for more personnel. When the requisitioners were reminded of the staff shortage and their promise of cooperation by giving up, rather than asking for,

some personnel, they indicated that they were cooperating by asking for fewer people than they actually needed.

Some of these requests, such as those of the DL Faculty, were justifiable, of course, but the others were hardly so. The dilemma was to decide which other requests were also justifiable. It was likely that some members had adopted this strategy only to avoid being impelled to give up some of their members. Lack of criteria whereby the units could at least measure the degree of their own efficiency for themselves was yet another problem.

Moreover, the new CS placed emphasis on effectiveness. Effectiveness in higher education meant high quality teaching and research, both of which called for academics of high calibre. Institutions that were to yield high quality outcomes, be it well qualified graduates or high quality research, could not afford to be poorly run, hence the administrative staff had to be fully competent. Competence was a matter of experience as well as educational background. Therefore, even if the University could recruit some new personnel, they might not be so competent as the existing staff simply because the new-comers might not be so experienced as the present members relative to the situation. This was the rationale that the faculties and some of the units advanced to justify their lack of willingness to give up some of their personnel and to justify the demands they were placing on the University's financial resources. Financial resources, it was

argued, were needed to attract highly regarded academics they were seeking.

Although that rationale sounded plausible, a few personnel were withdrawn from some of the units and more were borrowed from others to assist with the implementation of the Programme. But these were not sufficient. Accordingly, it was decided to exert some central control over the units by taking a stronger grip on the formal organizational processes. It was believed more control could eventually yield the information that was needed for the verification of what was being said about the implementation requirements of the CS. It was expected that this verification would in turn guide efforts intended for making the organization efficient.

This decision was not the first sign of the organization's formalization process. In fact, as the University developed, it seemed to be drifting to a higher degree of formalization. Even so, this process was not proceeding quickly, because all the units and sub-units were party to both the Committee and the Council's informally taken decisions. The heads of the former attended the latter's meetings when the issues to be discussed concerned them. They also frequently contacted the Administrative Council members personally for the coordina- tion even of the routine matters. Hence, the participative mode of tackling the issues had left little room for strict formalization to develop. But as the planning activities were giving way to action and as the internally ⎯ induced new issues

were losing their novelty, the incumbents inclined to espouse the rules and procedures in tackling the daily routines. Formalization was therefore nothing but an attempt at hastening a process which had already been in progress.

By emphasizing the above process it was also expected that the decision-makers, who were becoming increasingly involved with trivialities, would find some more time to spend on policy matters. Besides, they could not work long hours for ever. Whether the rationale behind the decision was justifiable or not, the expectations, particularly concerning saving time, appeared to be wishful thinking. All the time that could be saved one way or the other had to be spent on adapting the University to externally developed rules and procedures that were changed over and over again by the CCR and the Ministry and were sent to the universities for enforcement. The constant adaptation, which drew heavily on any slack that might have otherwise been secured, seemed to be a never ending process.

Although the externally imposed rules and procedures might contribute to the formalization process, they seemed to hinder it. Making sense of such things and interpreting them for their harmonious adaptation necessitated the relevant adminis-trators coming together rather regularly. These meetings, in effect, served the orchestration of the activities. This mode of coordination made the thrust for formalization ineffective. Moreover, the Committee members were so used to working

together informally that they could not give in to what they
saw as the demands of circumstances. Therefore, a desirable
degree of formalization, or associated slack seemed unattain-
able. Nor was sufficient time made available for the top
administrators' personal engagements.

Such a state of affairs appeared to edge the members beyond
their tolerance thresholds. They showed their impatience not
only by complaining about the work load but also by
individually complaining to the president about one another.
Any small issue was used as an excuse for a complaint. Despite
this, hardly anything serious emerged to disrupt the flow of
the activities. The joy of success, derived from having set
the scene for the resumption of the teaching programme, was
still alive and could motivate them to carry on even further.

Having become fully convinced that the amount of resources that
might be skimmed internally would not be adequate to make for
the implementation of the Programme, attention was then
directed towards outside sources. But acquiring resources from
outside would be time-consuming, as everybody knew.
Recruitment by the organizations that depended upon the
government for their financial resources had been restrained.
Permission to recruit would be given to an organization if it
could advance very good reasons to convince the relevant
authorities of its needs. Financial resources were allocated
to those organizations at the beginning of a fiscal year,
therefore no more funds would be allocated to those during the

year unless they had the full support of the respective
authorities for their needs. In the case of higher educational
institutions, the Ministry's support for the particular needs
of a university could lead both to permission to recruit and to
an allocation of extra funds.

Accordingly, the Ministry was informed of the University's
resource requirements as well as its need for setting up four
education centres instead of the four that were intended to be
shut down. Setting up new higher education centres had to be
approved by the Ministry or else they would not have legal
status and no budget could be expended on them. The Ministry's
reaction to the University's requests was far slower than
expected and pursuing the matter proved to require a lot of
time and energy.

In this situation, the impact of the requirements for the
implementation of the academic staff promotion, tenure, scheme
as well as the introduction of a new incentive, or overtime,
scheme for the same members began to surface.   These impacts
proved to do everything but contribute to the solution of the
problem of resource scarcity.

Just when the universities were about to resume their classes,
a revised scheme was introduced by the Central Board of
Trustees of the Higher Education Institutions concerning
academic staff tenure. The main emphasis of this tenure scheme
was on teaching and research.   But because it was imperative

for the higher offices in universities to be academics, and because the circumstances had necessitated that some of the academics be temporarily assigned to executive positions outside universities while keeping their academic membership, the scheme had given a little weight to the performance of such jobs as well. The scheme was, as was told to this author by the Deputy Minister, guided by the belief that it should not allow for the detachment of an academic from teaching and researching even at the time he was doing a non-academic job. Hence it was expected of, say, a vice-president of a university to teach a few hours a week and to do some research while performing his administrative job if he were to be promoted.

According to the scheme, the academic who, on evaluation, scored at least 100 points as an instructor or as an assistant professor could be promoted to a higher level. An associate professor had to score 105 to become a full professor. Contribution of teaching and research activities to the final score differed according to whether the academic had chosen and been permitted to do either more teaching and less research or vice versa. Whatever the orientation of the academic, he had to obtain a minimum score, which differed in each of the orientations, teaching or research. If the academic was assigned to an administrative position, the minimum score for eligibility for promotion was to be lowered to some extent with the difference, which could reach 45 points at the most, to be made up with the score to be achieved by the nature of the administrative position and the period he served in it.

Irrespective of the complexity of the scheme, it was clear that it was mainly research and teaching that were valued and not the kind of activities that could <u>facilitate</u> such academic undertakings.

If Ensani's academic staff, including such members of the Council and the Committee, who were doing administrative jobs, had grasped the implications of the promotion scheme fully, when it was first introduced, they might not have worked so wholeheartedly as they had been doing. But the scheme had been put into effect at a time when all Committee participants were so busy with the resumption of the classes that they could barely spend enough time making sense of its implications for themselves.

However, as the teaching activities developed and the other academic staff applied for promotion, the Committee members, who had to verify those individuals' application first, became more conscious of what the scheme meant. Even then, the implications of the scheme did not immediately disrupt the way they were working. They still felt they would have some time to spend on activities that would qualify them for promotion. They did not yet seem to have realized that they would not have much time for teaching or research because of being busy and preoccupied with administrative problems. But when the incentive or overtime scheme concerning the academics was put into effect and they became a little more conscious of their plight, the situation reversed somewhat.

The incentive scheme was introduced as a response to the nationwide shortage of academics. After the Cultural Revolution, the standards which had been laid down for an academic were probably too high to be met by new applicants; only a small number had qualified for academic positions. Therefore, the vacancies which had occured as the result of the departure of a good many academic staff in the process of the Islamic Revolution were only barely filled. The introduction of new subjects, for which there were scarcely any teachers, exacerbated the problem of academic staff scarcity. This became even worse when teaching was limited to ten hours a week to provide all academic staff with enough time to spend on research. Hence, a short while before the courses had resumed, the universities offered the Ministry some ways of tackling the problem of which an incentive or, more precisely, overtime scheme, met with their acceptance.

According to this preferred scheme, every academic member was allowed to teach 16 hours of overtime weekly to be paid on an hourly basis. The tax levied on the overtime pay was low and fixed with no bearing on regular salary. Therefore, overtime pay would not push a salary into higher income brackets to affect a person's total earnings adversely. Considering the bleak prospects for the solution of the staff scarcity problem, almost all the academics, who wished to teach overtime, could confidently count on their monthly income being more than doubled for some time into the future.

The academic members of the Council and the Committee came to regard the incentive or overtime scheme as unfair when, shortly after the inception of classes, they realized they would not have any time to teach or to research. Even if they had any time to teach at all, this would not be in excess of the ten hours needed to benefit from the scheme. If the incentives for the academics doing administrative tasks were in any way commensurable with those intended for persons doing only academic jobs, or if any measures were under way to bring the incentives for these people on to the same footing as for those who only taught or did research, they might not have been disheartened. But there was just nothing that was being done for this gap to be filled. The academics doing administrative jobs could not be paid for working overtime and the financial incentive to which they were entitled differed according to the positions they filled. The highest one could get in such postions would be less than the amount that could be made by teaching two or three hours overtime.

The discouraging effects of both of the schemes became very vivid when the members realized that it was not going to be possible to alleviate the resource problem so that they could be relieved from spending so much time and energy on their administrative work. Consequently, few members seemed willing to stay any longer to bear the strain of hard work under those circumstances. Indeed, Mosheeri, the dean of one of the faculties, resigned nearly three months after the resumption of the classes and more resignations appeared to be forthcoming.

It was not only the academic members of the administration of the University that were suffering from the said schemes; non-academic members of staff also seemed to be affected by the impacts of these. Of course, these might not have affected them, at least directly, in a different situation. But the schemes were certainly influencing such staff during the present evolution or development of both the organization and its context.

As the University was developing, so was its context. More and more institutions were settling down. The general uncertainty that prevailed during the Revolution and for some time after its conclusion, was giving way to certainty. As stability was taking the place of turbulence, economic activities were gaining increasing momentum. The general rate of unemployment was falling while the need for competent and experienced employees was rising. Joining industry was becoming attractive because of the high pay rates it offered.

The commercial and industrial organizations that could offer more secure positions were almost entirely controlled by the government, which had restrained recruitment. Even the new organizations that were being established had difficulty acquiring the human resources they needed. However, to reduce the over-inflated work force of most of the public organizations, transfer of employees from one organization to another, and also to private firms, was being persistently

encouraged. Therefore, the organizations with relatively low pay rates were at a great disadvantage in that their staff were being lured away from their jobs.

Attempts in these organizations to retain their staff, especially the more competent ones who were in demand, meant retention only of a bunch of unmotivated members. Because these organizations could not increase their pay rates to be commensurate with those of the better paying organizations, they could do nothing to improve the declining morale of their members.

The implications of this situation for universities were more serious than for other organizations. With the introduction of the overtime scheme for academics, other personnel saw in their own organizations what could have otherwise been only an external matter, i.e., pay differentials resulting from a scheme that gave their academic counterparts the chance to reap the fruits of staff scarcity. It was not surprising therefore to see the more qualified non-academic staff applying for academic postions if their requests for transfer to other organizations were rejected. Such was actually the case in Ensani and some other universities. In Ensani, that needed its members to work harder to make up for at least some of the staff scarcity, the situation was even worse. These members appeared to do just enough to look as if they were working up to the standards. They were certainly not afraid of redundancy or anything like that because they were aware of the

University's need for more resources and the difficulty it had acquiring them.   They believed Ensani could simply not afford to make them redundant and, however inefficient they were, the University preferred something to nothing. Indeed, to a great extent they were right.

As the administration was struggling with those problems, another serious one was developing. Because other problems had occupied the top administrators' minds, the provision of student dormitories had been left unattended.   The University did not own even one small building to be used as a dormitory. The general impression had once been that the University had no obligation   to   provide   dormitories.   Before   both   the Revolutions, most students had rented private houses and the others had been accomodated by the universities that had such facilities. However, because of increased rents and for other reasons, either students could not afford to rent a house or landlords were reluctant to rent their properties to students, with adverse consequences for universities. As this problem was pervasive, other universities that had dormitories were also pressed for this.

By conceiving these problems together, some sense can be made of the formidable task faced by the Committee and the Council. Indeed, not all the remaining members were prepared to remain in grips with those. Hence two more members of the Committee and the Council decided to do what one of their colleagues had done.   The persons who resigned were, Vahedi, the dean of

another faculty, and Pie'ande, the vice-president for student affairs.

Replacement of these people was a problem that Modeeri had to deal with. The difficulty resulted from the fact that there were only a few academics who were willing to fill the administrative positions in the circumstances of which everybody was aware. However, appointing those few people to such positions was not easy anymore because Modeeri alone could not decide upon the appointees. The other members of the Administrative Council, particularly those representing the student body, wanted to have more say in such a matter even though only Modeeri, like all other university presidents, was ultimately responsible for appointments.

Appointments had hardly posed a problem when the first group of higher positions were being filled. When Modeeri had assumed office, the circumstances had been such that everybody had been primarily concerned with saving a University which had been on the brink of collapse. When the situation had been turned around to some extent a litte later,there had been quite a number of people to accept such positions. Hence there was more choice in the recruitment process and consultations, or negotiations, with the rest of the Council members, concerning the appointments,had almost always had a happy ending. Modeeri had not given up his habit of consulting with the members of the Committee or the Council about important decisions bearing on the administration of the Univeristy, but this time these

members seemed determined to impose their will.

Those individuals justified their insistence on their own candidates and their rejection of Modeeri's by attributing more commitment, dedication, and sometimes more competence to theirs. This hardly appeared to be the driving force behind their behaviour. It was, of course, difficult to find out the reality of the matter, because it was carefully disguised beneath rational statements and well-thought out justifications.

Although Modeeri was quick to find a solution to this problem, the solution itself tended to create other problems that happened to be detrimental to the implementation of the Programme.

All the Administrative Council members accepted Borhani, the new vice-president for student affairs, albeit with some reservations. They accepted Borhani on the grounds that, as the personnel and finance vice-president to the ex-president, he had proved dedicated and highly energetic. Moreover, they knew that Borhani was known to the Minister and his Deputy, one of whom had to approve of a vice-president before he was appointed to such a position. This was only a formality and they approved virtually anybody that was intended to be appointed in such positions by a university. However, it was seen as an advantage to the university if the Minister or his deputy knew a vice-president. Even, then, the members were

reserved because they regarded the new-comer as rather more formal than they themselves were and associated him with the conflicts in the previous Administrative Council.

As for the second appointee, only the student members were unimpressed by Modeeri's choice. They saw the new faculty dean as unyielding and, to some extent, wilful. They could not criticize the president for his choice because, as a prominent and respectable president of one of the constituent institutions of Ensani, that person had already proved to be competent, committed and dedicated.

At about the time when these changes were taking place, the issue of acquiring resources was discussed in a joint meeting of the Committee and the Council. Although everybody regarded resources acquisition as extremely difficult, nobody saw it as impossible. Hence the members expressed their commitment to the implementation of the Programme. Even those less in favour of the Programme showed their willingness to cooperate. It was decided, therefore, that some members had to take trips to four cities to locate suitable buildings to be rented for use as the sites of the new education centres that had to be set up.

In the absence of the Ministry's approval of the new sites, redirection of the budget, which had already been allocated to the four old centres, which were to be shut down, to the new centres would be problematic and risky. Nevertheless, Edari assured everyone of his attempts to settle the matter with the

chief accountant, who was thought to be against those types of practices, which he would regard as unlawful. Chief accountants, who are assigned to all government dependant organizations by the Ministry of Economy and Finance, are to discourage improper use of government or public funds. Ensani was believed to have one of the least lenient of these individuals.

Dousti, the academic vice-president, and the deans of two of the faculties, accepted the site hunting assignments and Edari went ahead to win the chief accountant's collaboration by convincing him that reallocation of budget was not an improper use of funds.

Although these decisions were important, the proceedings of the meeting, like those of several others in which such decisions were made, were never recorded. Nor were the proceedings of the meeting in which it was decided to sign the contracts with the proprietors of the sites that had been found. The members were so used to doing things informally that they did not imagine that the proceedings of the meetings might ever be needed.

In these circumstances the CCR notified the universities that their inspectors would call on them to talk to the individuals involved with the new CS to find out how they felt about it. It was found out in Ensani that it would be one of the first universities to be inspected. Ensani also received a letter

from the CCR in which the persons to inspect it were introduced. Dr. Kari and two of his associates were to be three of the seven member party that was to inspect the University.

It was rather unprecedented for an organization to be inspected by one of its own members. Because Ensani was becoming more and more identified with DL, it was hard to believe that the choice of this University as one of the first universities to be inspected for their conventional system was accidental. Therefore, the Advisory Committee members were united in trying to take a coordinated stance to foil any possible action that might have been planned against them. It was strongly believed that even Dr. Kari's associates might not know much about what he might be up to.

There was little need for the members to go to great lengths to deal with a possible malicious act. When some of the CCR members were contacted and were asked if they approved of an inspector observing an organization to which he belonged, their answer was negative. Having then realized that this was what would be the case with respect to Dr. Kari and the University, early on the second day of the several-day long inspection, they called him back.

The report of the inspection contained some constructive feed-back concerning the implementation of the CS in Ensani. But it also included something about the administration of the

University, which was not particularly complimentary. The comments, according to some of the Advisory Committee members, had probably been inspired by Dr. Kari. The comments were believed to have been intended to discredit the Ensani administration in general and Modeeri in particular. It was suggested that Kari wanted to disqualify the Ensani administration from implementing the Programme by indicating that they had failed to execute the CS to the Policy-makers' satisfaction. His motive was possibly associated with his intent to take over the University. He was a member of Naame University, a constituant part of Ensani, and like some of his counterparts, as we explained before, had been trying to control Ensani from the outset.

Whatever the intentions behind those comments, they were not thought to be damaging. The Policy-makers were believed to be concerned more with the possible shortcomings of what they had produced, the new CS, than anything else.

Once that episode had passed and the new office holders established themselves in their positions, the Advisory Committee, which had for some time embodied Ensani's sole decision-making and regulatory body, was dissolved. The University Council, which consisted mostly of the offices that were held by the previous members of the Advisory Committee, was then formed.

The new University Council members' greater involvement with

the practical aspects of their jobs, and their willingness to benefit from the promotion and the overtime schemes, occupied their time so much that they could not devote so much time and energy to such issues as had previously been tackled by the Advisory Committee. Therefore, this Council assumed a rather formal posture, trying to do only as much as it had to. The Administrative Council was left to do most of what had been done jointly with the Advisory Committee .

At the end of the Persian fiscal year, 20th of March, Ensani had made some progress; the faculties had been established, the new CS implemented, and the DLS legitimized. Most important of all, according to some observers, it had survived until the last day of the year without any budget deficit. While some universities had been forced to postpone some of their payments until the year after, Ensani had not encountered even minor problems in this respect.

The budget that was acquired for the year after, 21st March 1984 to 20th March 1985, was more than that of the previous year (Table 2-2). Even so, the Administrative Council members seemed to be overwhelmed more by the possible pains of the future than by joy at the past successes. They appeared to expect to do more, for which they needed more financial resources. They believed that that amount of extra budget could not serve their purpose. Moreover, permission had not yet been granted for recruitment and the setting up of the new education centres. And whereas the resources were mostly

needed for the implementation of the Programme, they had now found a competing use; the student welfare programme.

Table 2-2. Yearly budget in thousand of Pounds (£ 1 = 120 Rls)

1982	1983	1984	1985
19500	17000	18500	22500

Source: The University records

Early meetings of the Council in that fiscal year were marked by frustration. What appeared to exacerbate the situation was the presence of the new-comer, with whom most of the members felt rather uneasy. It was certainly necessary to do something quickly to get the Council out of the stagnation that seemed to be developing. Inaction could probably be avoided if the members were resocialized quickly. Nevertheless, Modeeri appeared too tired to give the issue as much thought and attention as it probably deserved; instead, he preferred to submit his resignation to the Minister.

He expected that one of the two things should happen; if his resignation were accepted, he would be relieved of all the problems of performing a stressful job. However, if he were asked to continue, he would stay on the condition that Ensani's requests for resources were met immediately. What happened,

though, was contrary to his expections. He was told his resignation would be accepted if he insisted, but he would have to allow some time for a suitable person to be found to replace him.

Even though it was not accepted, his request for resignation might still have adversely affected the situation. However, for some time, the DLS and the CS students, who were pushing hard for the resumption of their courses and the provision of welfare services, particularly dormitories, gave the Council members no chance to be carried away by what Modeeri was doing. Rather, they were forced to be resocialized quickly in the course of dealing with the problems, that required their joint attention. Even then, this Council never managed to emulate its predecessor.

Not long after Borhani had assumed office, he took a rather tough stance concerning the decision-making structure in the University. He wanted the lines of authority to be sharply drawn so that it was absolutely clear what everybody's responsibilities were. He expected the proceedings of all the meetings to be recorded as exactly as possible and the rules and procedures to be followed relentlessly.

Irrespective of his assumptions and motives, other members, particularly his counterparts, supported that stance. The president, who had once supported some degree of formalization, felt that carrying this to excess would only stifle esprit de

corps, which he had always tried to preserve in the Council. Even so, he made no definitive objection to this inclination of his assistants, particularly because the new faculty deans also appeared interested in more clarification of lines of authority through the introduction of better defined procedures. Modeeri, in the meantime, hoped that formalization could eventually lead to the creation of some slack.

Lengthy meetings, which had ceased for some time, got underway again so that well-thought out and well-defined rules and procedures could be drawn up. These, which were meant to reflect views of the unit and sub-unit heads as implementors, placed the members within a time-consuming, tedious process. Worse still, this process interfered with the smooth flow of communication necessitated by efforts geared to the acquisition of the resource. The members' attention became concentrated, for the most part, on the internal matters, while communication with the Policy-makers and other related external organizations was restricted to a few formal letters.

However, there were a few interruptions in that external communication process. Either the president or his representatives were invited to a few meetings which were held in the Ministry to discuss the technicalities of the merger of another university with Ensani. Although it was becoming clear that the merger was inevitable, none of the Ensani's higher officials pursued the matter as diligently as they had done previously when a decision had been taken to affect this

University. The loss of the old Advisory Committee members, who had extensive outside connections, was a blow to the Administrative Council. It could not continue its past interpersonal communication with the external influential people the way it had done before.

When the rules and the procedures, that depicted the decision-making structure and coordination processes in the University, were ready, they were welcomed by the heads of some of the units and the sub-units. In fact, since formalization had started being emphasized, most of those individuals had been wondering if there was any decision, no matter how minor, that could be taken by themselves, because there had been no adequate guidelines to define their formal domain of authority. Moreover, the structure, however primitive and unsatisfactory it appeared to some, could set the task boundary of each unit, elucidating the extent to which each one of them had possibly trespassed upon the territory of its counterparts.

The enforcement of the rules and procedures led to the realization that a few of the units had encroached upon the others' domains. The trespassers were therefore called upon to give up some of the human resources that they had kept to perform the tasks that they had previously carried out.

As a result, some staff were discharged from a few units and were transferred to the DL Faculty, to its advantage. Nevertheless, Modeeri wanted that faculty to be excluded from

strict subjection to those regulatory mechanisms. He saw those rules and procedures as more compatible with the nature of the CS and not with that of the DL. Hence he indicated that tight integration of the DL Faculty with the rest of the system, which he thought could occur as a result of treating that faculty like the others, could only diffuse the problems of that unit through the whole University. But if the DL Faculty were kept only loosely integrated with the rest of the system, the issues and problems of the DLS could be prevented from interfering with the other activities of the University. Hence, only part of the system would suffer seriously if the shortage of resources remained a source of sustained difficulty for that faculty. Also Modeeri felt that if the resources could be obtained somehow, the faculty would be better off acting as a spin-off from the University until some of its other problems had been resolved. This could keep the faculty from being unduly constrained by extensive rules and procedures. Finally, of course, modified rules and procedures had to be developed to accomodate the particular requirements of the DL Faculty and the education centres, which were at the forefront of the implementation of the Programme.

Although the other members of the Administrative Council had hardly anything to counter Modeeri's rationale for excluding the DL Faculty from implementing the rules and procedures, they, particularly the three VPs, kept insisting on the observation of these by that unit. Borhani believed formalization of the processes would establish order, lead to

efficiency, prevent the participants from going beyond their limits, and help to indentify a trespasser. Edari, who had always advocated stringent regulatory mechanisms, supported his colleague.

Although Dousti, the third vice-president, had been subjected to constant criticism for the lack of attention which he himself had been paying to the procedures, he also followed the others. But even though he ostensibly supported the universal imposition of rules, he seemed to be particularly concerned with the observation of the rules and procedures by the DL Faculty. He and Ameeni, the dean of this faculty, who had been two members of the Programme-planning sub-committee, appeared to have become more divided during the time when the Dousti had been busily engaged with the implementation of the CS and Ameeni had been involved with the DL issues. Feeling that Modeeri was not doing enough to bring Ameeni into line with his expectations, Dousti tended to believe that formalization of the procedures would.

The rules and formal procedures achieved their objective only to some extent relative to the CS. They had more effect on the Council members and their meetings, where time was mostly spent on arguing for or against one rule or another. The meetings sounded as if ends and means were confused, so that the Council was there to make rules, checking on them continually, improving them when some members felt a need for that, and watching how well they would be implemented without paying much

attention to what the University actually achieved.

This mode of tackling the issues led the Council members to a point where they became less and less interested in teamwork and esprit de corps began fading away. One of the student members quit and the other did not attend the meetings as regularly as he had done before. The meetings were being characterized by tension, although no serious conflicts had yet surfaced as the members could still manage to hold back their feelings. The regular interpersonal contacts began giving way to impersonal formal letters. However, the vice-presidents met one another almost every day, coordinating their activities relative to the execution of procedures. The Ministry's lack of response to the University's demands for resources was exacerbating the situation.

However uneasy the Council members felt about working together, they could not afford to leave the problems of the University unattended. Up until then, it had been mainly the DL students who had wanted their position to be clarified, but now all the personnel, both academic and non-academic, who were directly related to the DL, started pressing for the clarification of their position. These individuals had hardly had anything to do in the previous four years when the DL teaching activities had ceased. The answer to the problem of inaction could be the implementation of the Programme.

Ameeni convinced the president that they could embark upon the

undertaking by using the personnel that had been drawn from the other units thanks to the formalization process and a little extra budget that had been acquired in the new fiscal year. These were certainly very limited, but the Programme was to be implemented on a small scale. It was suggested that it be undertaken in summer by offering 8 course units to a limited number of students. This would mean that 12 out of 30 education centres would have to be activated initially.

The Council members, except for the new-comer, had already favoured the Programme and expressed their commitment to its implementation. But to involve Borhani in the process and to be reassured of the others' sustained commitment, Modeeri put the suggestion to the members. Their reaction was rather equivocal, or at least this was the president's impression. Borhani indicated implicitly and explicilty that the student welfare programme and the establishment of even better-defined operating procedures had to receive the first priority, or else any new undertaking would be problematic. His counterparts now seemed to have moved from their previously unqualified favourable stance to the Programme. Supporting their new colleague, they came up with added excuses that would call the undertaking into question. Alluding to the developments concerning resource acquisition, they said not enough had been secured to accomodate the requirements of the implementation of the Programme. They also maintained that it was inadvisable to undertake the job without the self-teaching material and a detailed implementation strategy.

The president, however, thought of Ameeni as a dependable person. He believed that if Ameeni had accepted the responsibilty for that job, he would do it, but he had to be encouraged to go ahead and be assisted to be successful. As to the procedures, he saw no reason for the shortage of these being a great barrier to the undertaking; the CS had been put into effect relatively successfully in a rather similar situation. As far as self-teaching materials were concerned, they were not needed during the period when the Programme would depend upon a conventional rather than a DL system. The shortage of resources might not jeopardize the implementation of the Programme either, as this would be undertaken on a very limited scale. That there were other problems or that the venture might create some more was not a good excuse. One problem could not necessarily wait for others to be solved. What was more, doing anything new could create problems, but if this was a justification for not implementing the Programme, the CS, which was far more pervasive and much riskier in some respects, should have never been implemented in the first place.

However convincing Modeeri's reasoning sounded, it did little to encourage the VPs to back down from their stance entirely, but it caused their final verdict to be blurred. As such, it was unclear whether they were rejecting this act definitely or not. The president's impression was that they were only trying to stress the gravity of the difficulties to be expected. His impression might have barely been otherwise; when the situation

had hardly been any better, they, the older members, had actually been collaborating with one another and with the others, in setting the stage for the Programme to take off.

No sooner had the president given the relevant participants the green light to carry the Programme out, than the vice-presidents expressed their joint views; it was "no". Even though their verdict was negative this time, it was not such a strong "no" as to block the implementation of the Programme at the outset. Rather, they tended to cooperate to some extent. However, as the Programme proceeded further, their cooporation proceeded in a state of equivocation, a matter to which we shall return later.

The implementation decision triggered efforts that would involve some of the education centres. From their contacts with the DL Faculty people and others, they were more or less aware of the developments that concerned the Programme. They sought to be and were actually involved in it, though not deeply and thoroughly. However, they had to be briefed on how to go about implementing it. Hence it was decided that all the staff of the centres had to be put into the picture.

11.3.The Intra-oganizational Diffusion of the Programme

At the beginning, the DL Faculty people sent the Education Centres a brief description of the Programme, and then sent the directions to do one thing after the directions for doing

another. According to some of the centre directors, they were flooded with directives, circulars and letters. But as these frequently failed to spell out exactly what the centre directors and their staff needed to know, they wrote back, telephoned, and even went to see the dean of the DL Faculty personally to ask for more clarification.

It was not the directions and explanations that were always ambiguous in the general sense of the word. They sometimes sounded obscure to their recipients because they simply did not say enough or because they did not include reference to situations those persons felt they might confront in future. Having to face the future with something new, the directors seemed to look for an answer or a solution to any question or problem that they thought might stem from the implementation of the Programme; they looked for certainty.

Although it is doubtful if much could have been done to remove all the uncertainty that entangled the undertaking, dissemination of more information was certainly possible. Indeed, the decision to withhold some of the information, which could have enlightened the centre directors, might have stemmed from Ameeni's long involvement with the Programme in an environment where almost all kinds of data and information, were available. His access to these had given him the impression that they were as accessible to the directors as they were to him. He must have lost his sensitivity to the degree of importance of a piece of information. An item of

information had to be seen as particularly important before he decided to disseminate it.

There were other problems that made impersonal communication ineffective. Having worked closely with certain individuals and materials for quite a time, Ameeni had become accustomed to a particular vocabulary and expressions, which he used in writing down the directives. These words and expressions were not all that easy for the directors to understand readily. Yet another problem was the recipients' inadequate attention to the explanations and the directives. Impatient with their long inaction, they appeared to be distracted by the excitement of the imminent activation of their centres. Hence, more often than not, they skimmed through some of the directives without making sense of them even though they were clearly worded and carefully laid out. Ameeni had several examples of cases in which he had been asked about things for which the answers, it was discovered, were sitting on the desks in front of the enquirers.

Despite the ineffectiveness of the impersonal communication of the Programme, the complementary information, and the directives, that mode of dissemination of the material could not be discontinued. It is true, there was no sanction to be applied against those who might not observe those directives. Nonetheless, formal communication could, at the very least, serve to prevent the recipients from using their lack of knowledge as an excuse for not observing them. Therefore,

written information and directives kept flowing from the faculty to the centres. However, arrangements were made for the centre directors to gather in the DL Faculty to receive a thorough orientation over a three day period.

To mark that period as the harbinger of the eventual revival of an almost dead system, some high ranking national and University officials were invited to the opening session. The vice-presidents were to open the subsequent sessions in which their more experienced personnel were to give the necessary orientation to the participants. Much of the orientation, however, was to be given by the dean of the faculty.

In the opening session, the president gave a brief account of the history of DL in the country and the new DLS. This was then followed by the Deputy Minister's speech on the state of higher education and the need for new education systems. He then expressed the Ministry's support for DL, welcoming the imminent implementation of the Programme. A CCR member, who was present and was expected to give a speech to reassure the participants of the CCR's support for the Programme, excused himself from doing so because he was unprepared.

After this meeting, the CCR member implied to Modeeri that the latter's account of the Programme had given him the impression that he had been presented with a new version of what they had once approved. This was rather strange because in the CCR meeting, in which a decision had been taken about the

Programme, this very person had said he had read every single page of it so carefully that he could even recite each of its sections.

He could certainly not have been lying about his knowledge of the Programme and the president had not presented a different DLS instead of the Programme. Whatever was the root cause of the CCR member's altered impression of the Programme remained to be discovered later. In Modeeri's view, the way this CCR member felt about the Programme would not cause the CCR to withdraw their approval of it, and he did not feel that other CCR members' attitudes towards it would matter any more anyway. Therefore, he made no effort to convince this individual that the Programme was now only more specific, rather than modified.

However enthusiastically the orientation programme started, it did not proceed as smoothly as expected. Borhani did not get involved in it, saying that issues for discussion were academic and administrative in nature, having little to do with him. Borhani's counterparts, who were involved in the programme, were quick to pass their judgement on the centre directors. They said some of the directors were hopelessly incompetent showing no sign of following the rules. The dean of the faculty, who had to carry much of the orientation burden, also complained, maintaining that some of the participants kept insisting obstinately that the directives and even the Programme should be modified to their satisfaction. He was prepared to follow the suggestions only if they could help with

the smooth implementation of the Programme. But the problem was that some of the suggestions were simply calling the DLS into question.

Some of the directors were unhappy also. They expressed their dissatisfaction by indicating that they were aggrieved at not having been deeply involved in the Programme from the outset. If they had been, they would have known so much about it that they need not have had to go through the orientation process or anything like that.

Such complaints could not stop the execution of the Programme. The opening date for the DL had been announced and by the time the orientation programme finished, most of the DL students had already registered. Moreover, neither Ameeni's complaints, nor those of the directors, were strong enough to threaten the continuation of the DL activities. Indeed, they put their cases in such a way that the president's confidence in their cooperation would not be impaired. If this had happened, immediate activation of the centres might have been jeopardized. It was they and the DL students who were pushing for the activation of the centres and the implementation of the Programme would achieve this.

11.4.The Preliminary Implementation

In the course of the orientation programme, the disagreement between Modeeri and his assistants over the implementation of the DLS became even more pronounced. It appeared as if the VPs had forgotten that two of them, Dousti and Edari, had favoured the DLS in an Advisory Committee decision-making session. They also seemed not to remember that they had been involved either in site hunting for the centres, or in trying to win the chief accountant's favour for allocating some of the Ensani's funds to the requirements of the DLS. They indicated that just as Modeeri had decided to exclude the DL Faculty from following some of the rules and procedures, so too had he decided on the implementation of the Programme without their consent.

In the absence of the proceedings of most of the meetings, they could not prove they were right, just as Modeeri could not prove they had been party to the implementation decision. However, in order to prove they had not supported that decision, the VPs drew up, in retrospect, the proceedings of one of the meetings in which, they claimed, they had made their point clear. They expected that to be signed by the president, who never did.

Despite this cleavage between Modeeri and his aides, the latter did not yet have enough time to think of a way of coming to grips with the situation. With the exception of Borhani, they were involved in the orientation of the centre directors and some preparatory activities for the resumption of the DLS.

When the Programme finally commenced in the June of 1984, if anyone was filled with the euphoria of bringing about something that had been thought to be impossible, the Administrative Council members were not. This undertaking was probably a far greater accomplishment than the resumption of the CS courses, because almost everybody supported the latter vehemently, whereas only a few backed the DLS. Yet despite all the difficulties, it was being launched. It was difficult to interpret the situation. The feelings of the members might be explained simply by the law of diminishing returns; more of the same experience made it less exciting each time it was experienced. Even if this was part of the explanation, it was not all of it. The members were likely to have seen this development as a leap in the dark given, among other things, the obstacles on the way to acquiring the needed resources.

As the Programme advanced from its early implementation days, the vice-presidents tried to distance themselves from Modeeri and his decisions. They made efforts for everything to be done as formally as possible. Even the most commonplace things were communicated to the president through letters and they did not do anything, that felt in the slightest bit significant to them, unless they received orders in writing. They wanted to demonstrate to all the participants that Modeeri, and he alone, was responsible for all the decisions and, by using all the evidence that was expected to be gathered through the exchange of letters, to illustrate further that all the previous

decisions, including the implementation decision, had been made by the president. Their meetings became sporadic and barely anything came out of them. The vice-presidents levelled harsh criticisms against the president, blaming all the problems the University had on him.

Almost anything the president did was regarded as equivocal but with a more negative weight. That Modeeri's ill-health, caused by relentless hard work, prevented him from going to work early and coming back from work late, as he had done previously, was taken to mean that he wanted to implicate them more in the execution of the decisions he had made. The president's resignation was also interpreted in the light of their new dispositions. The new VP implied repeatedly that the president had resigned and would end up in a higher postion leaving them to take the blame for whatever, they believed, he had done wrong.

However unfortunate the situation was, the vice-presidents' attitudes to teamwork were not yet disrupting the general flow of activities seriously. The president, therefore, did not do much to resolve the conflicts, saying explicitly that as long as these did not interfere with the on-going activities, he would not act. Moreover, he saw the problems arising from the differences between himself and the other Council members as peripheral, to be taken care of after the other tasks had been attended to.

However, not long after the Programme had been put into effect, all kinds of problems began to surface. One problem was that the Programme had been implemented in only some of the centres. Having seen this, the directors of the other education centres kept insisting that they had to be permitted to implement it. The students of those centres grew even more impatient, wanting to begin their courses as quickly as possible. The affected individuals joined in efforts to push Ensani's decision-makers for an immediate response to their demands. Moreover, these people together appealed to their local authorities to back them up in their requests. To support the appellants, the latter soon flooded the University with letters and bombarded it with telephone calls over and on top of those coming from the appellants themselves.

Coping with all such contacts claimed a good deal of the time and attention of the DL Faculty staff and a few top administrators. In the meantime, the problems that were being raised by the directors and the students, who were included in the preliminary implementation stage, were making the situation almost unmanageable. Several of the early issues these people raised were quite justifiable. Some of these had to do with the registration and other procedures that were internally drawn up by the University staff. Other issues concerned the externally made out and imposed rules and directives. There was not much problem modifying the procedures that were internally produced. However, modifications of the other rules and directives had to be suggested to the Policy-makers for

their consideration. This process, in particular, proved to be a major impediment to the implementation of the DLS.

Until that time, the Ministry had only delayed its response to Ensani's demands for resources, and having seen the Ministry's high ranking officials' support for the Programme, the Administrative Council believed that the University's needs for the resources would be finally approved. But as Ensani was becoming more involved in the Programme implementation, signals from the Ministry indicated that no more of the University's demands would be met. As for the resources, not all were urgently needed, but without the Ministry's approval of the four new centres, the University would be in grave trouble. In the hope that the establishment of these would be finally approved, three centres had been set up and manned and some of the students had already been assigned to them.

The Ministry's approval of the centres was quickly won through the actions of the students. No sooner had the Ministry's negative response arrived than the president ordered the centres to be closed down immediately with their personnel and students to be sent to the nearest alternative centres. This was much to everyone's surprise since they expected the president to lobby for the reversal of that decision. Having learned that the decision for the closure of the centre was initially the Ministry's, the students and staff of those centres, enjoying the support of their local authorities, pushed the Ministry into changing their decision so forcefully

that they announced their approval of those sites in no time at all. As for the resources, the Ministry's approval of at least some was won, so that the stage was set for the implementation of the Programme on a wider scale. However, not much advance was made with respect to the modification of externally made rules and procedures.

At about this time, the VPs adopted a strategy to clear themselves from any possible undesirable consequences of Modeeri's decisions, of which the implementation decision was certainly the most important. The strategy was to act both inside and outside the University. Internally, they were to accentuate both extreme formalization and to publicize any fault they could find with the president. Externally, a few of the external Policy-makers had to be briefed on some of the developments in the Administrative Council, from their perspective, of course.

Although one of the vice-presidents, Edari, barely followed this strategy consistently and the other, Dousti, followed it only at the beginning, Borhani, the new member of the Adminstrative Council pursued it vehemently until the day when his service was terminated.

Not much was known about the external contacts through whom they pursued their case, except concerning a meeting they had with the Deputy Minister and one or two letters they sent him and some of the CCR members. These contacts apparently took

them nowhere. But the internal component of their strategy turned out to be a significant barrier to the implementation of the Programme.

When the Programme was being designed, almost all the top administrators had thought that the rules that had been laid down for transition from the old conventional system to the new could be equally applicable to the change from the old DLS's to the new one. However, soon after the Programme had been put into effect, the implementors found that different procedures were needed for the DLS. Moreover, curricula had not yet been developed for some of the DLS courses. Besides, the overtime scheme for academics did not include any particular way of compensating the academic staff, who were to teach during holidays. This was required of such people according to the Programme. These, which were only a few examples of the host of issues that were being surfaced as the implementation of the Programme proceeded, needed immediate action. New rules, curricula and other things had to be suggested to the CCR and the Ministry. They had then to be pursued until they were approved.

Ameeni, the dean of the DL Faculty, who was directly involved with these rules, etc., was more concerned with the shortest route that could secure their speedy approval. Therefore, more often than not, he tended to circumvent the hierarchical check points that delayed the process of suggestion making and acquiring approvals.

The issues that Ameeni had to tackle were both academic and administrative in nature. To follow the bureaucratic and formal procedures for handling such matters in the University, Ameeni had to send his suggestions to the relevant vice-president first who, as a rule, forwarded them to the respective Policy-makers. The VPs, however, would hardly send such things to the Policy-makers without including in them their own inputs and most often those of the units under their supervision.

The bureaucratic processes slowed down the movement of the proposals. So did the way the above units handled the DL issues. Since the Bureau for the DL had assumed the status of a faculty, those units had tried to keep themselves away from the issues concerning that faculty. Consequently, now that they had to tackle the DLS issues, they needed some time to make a good sense of them before they could come up with sensible inputs that could improve the relevant suggestions. This meant that for even a relatively insignificant DL matter to get out of the University to reach, say, the Policy-makers, it had to float around in two or more offices for quite a time. Yet only by seeing other committees, councils, etc. in the Policy-making establishments, could one have a feel for the lengthy process precipitated by each suggestion that needed the Policy-makers' approval.

Despite time limitations, the VPs kept insisting that the

formal procedures had to be observed precisely. Edari would cite examples of his interception of some acts which had not been being carried out according to those procedures. Ameeni, therefore, chose to communicate with the Policy-makers directly, unless the subject of communication was a matter that would affect most of the participants. In the latter case, he usually contacted the president, who pursued the matter himself.

To illustrate how inattentive Ameeni was to the formal procedures, the academic VP once wrote to ask him to explain why he had suggested a certain curriculum to the CCR without his prior knowledge. This turned out to be an inadvertant act. The reply he recieved was something of a self-fulfilling prophesy. Apart from pointing to other matters in defence of the way things were done in the DL Faculty, the response contended that administrative processes had been so bureaucratized that the speedy processing of any issue was exceptional. That contention turned out to be true of that very letter. Although there was evidence to show that it had not been backdated or been kept back deliberately, it had taken it ten days to reach its recipient. Indeed, it was unusual for formal letters to move from one office even to the office next door in a matter of hours. Two days was the shortest time for a letter to reach its destination and three to ten days was the usual norm.

The summer term and the preliminary implementation of the

Programme came to an end and so did Ameeni's office. He had submitted his resignation to the president before the Programme had been put into effect for personal reasons and because of the shortage of resources, which he had said, would make action impossible. But he had been persuaded to continue a little longer when some resources had finally been obtained. However, the traumatic developments in the preliminary implementation period gave him little reason to stay longer even if his own problems would have permitted him to do so. The developments had mainly to do with unpredictable requirements of the implementation, the conflicts that had emerged in the Administrative Council, and the manner in which the DLS issues were being handled.

After serious conflicts had risen between the VPs and Ameeni over the way he led the Programme-related activities, including the coordination of the education centres, it seemed hardly anything could reconcile these individuals, a state that could have provoked disruptive ramifications. Hence when the conflicts and Ameeni's personal problems led him to renew his resignation, it was accepted.

At about that time, rather than the president's resignation being accepted, the Minister was removed from office. When this occured, the president knew that his resignation had to wait for some time until the new Minister had settled down. His obligation to carry on put him under pressure to remain struggling with all the problems of the University.

After the preliminary implementation of the Programme, he almost decided to abandon it because of the severe difficulties it had run into. Just as the resumption of the first CS courses had provoked the students of the other courses and the general public to push for the same provision to be made for the rest of those students, so the commencement of a few DL classes incited the rest of the DL students to press for classes for them as well. The students that had been excluded from the preliminary implementation had become so impatient that they would not allow the implementors of the DLS to consider not letting them begin immediately, much less would let them stop its piecemeal implementation. Therefore, despite the vice-presidents' lack of interest and the president's new reservations, the Programme was forced into effect on a wider scale.

11.5.The Large Scale Implementation

Although outside pressure was important in the VP's succumbing to the implementation of the Programme, the academic vice-president's added responsibility for the DL Faculty proved a far more significant factor in pressing them, except for Borhani, to toe the line. Because there was nobody to fill the position of the dean of the DL Faculty, Dousti was made its acting dean while holding his normal position.

As the acting dean of the faculty, Dousti had to attend to the

problems of 18 rather than the 12 centres that had originally been activated. Now nearly 4000 DL students, almost five times more than the number of the initial group, had resumed their courses. He had to come to grips with not only the unresolved problems but also the new issues that came up on an almost daily basis. As he developed a better feel for the nature of the problems involved, he appeared to appreciate the obstructiveness of the formal procedures the strict observation of which he, along with his colleagues, had been insisting on so much. He implied, therefore, that he would even welcome the reinstatement of the resigned dean.

In this position, Dousti tended to perform in more or less the same manner as his predecessor had done and for which he had been criticized. Of course, by virtue of his position as the academic VP, he could act more freely. Nevertheless, when it came to doing things that had to be done with the other members' prior knowledge, he tended to ignore them. Moreover, he felt free to question his colleagues if he thought they had not done or were not doing what he expected them to do with respect to the DL issues and the students. For example, in a letter, he asked what Borhani had done for the DL students' welfare.

During the period in which he served as the acting faculty dean, Dousti's direct involvement with the Programme gave him little time or reason to pursue the strategy he and his friends had developed to deal with Modeeri's so-called misdeeds.

Moreover, he was reconciled with Modeeri, at least, because he needed the latter's support for the sustained implementation of the Programme.

Although Dousti had emphasized the immensity of the work that had to be done for the implementation of the Programme, he had joined his counterparts in playing down Ameeni and Modeeri's call for their sustained attention to its process. But as the acting dean of the DL Faculty, he could see that the Programme did require attention not only on their part but on the part of the external Policy-makers as well. However, whereas they had mainly concentrated on rules and procedures, the external Policy-makers appeared to be backing out of their support for the Programme.

The Policy-makers in the Ministry seemed to come to regard the Programme as a nuisance. Firstly, it had laid claims to some resources, however modest they had been compared to what other universities required to accomodate the same number of students. Secondly, the implementation of the Programme required them to come up with new rules concerning such things as overtime compensation, etc. Indeed, the Ministry was now considering the development of a less demanding type of DL system for which they sought Ensani's cooperation. The acting faculty dean, therefore, had the difficult task of convincing the Ministry of the resource requirements of the Programme if it was to be kept going.

As far as the CCR was concerned, they had to be convinced of the Programme's need for new rules and procedures for its adaptation, as well as its need for the few remaining curricula. Having once legitimized the Programme, they felt they had done all that it required, or might need later. Therefore, when they were asked for the rules, etc., the Policy-makers took them as the confirmation of the impression that one of the CCR members had had of the Programme when it had been presented to him in the opening session of the DLS orientation meetings. After that meeting, he had indicated to Modeeri that the latter's account of the Programme had been different from what they had originally approved.

Despite their lack of sustained support for the Programme, the Policy-makers' approval of a few of the suggested rules and curricula was won by redirecting onto them some of the pressure that was being exerted on the University by the students, directors, and their political and social supporters. A little more financial support was acquired, and permission was obtained for the recruitment of a modest number of pesonnel.

The bureaucratic procedures, however, had now become extremely dysfunctional in that they were making the effective use of resources almost impossible. For example, it was becoming increasingly difficult to redistribute the budget or reallocate staff. Hence smooth development of the Programme was becoming more difficult than before. But the Policy-makers' lack of commitment to the Programme seemed a more significant barrier

to its sustained implementation. Rather than spending time and energy on this, the Administrative Council members had to go to great lengths to win the Policy-makers' approval of even the simplest things concerning the Programme. Therefore, it was felt that not only had the Policy-makers to clarify their stance on the DLS, but if they viewed it positively, they then had to be closely involved with its implementation as well. If they did not regard it favourably, the Administrative Council had to rid itself of the Programme in whatever way possible.

It was also realized that winning the Ministry's and the CCR's sustained commitment, and winning over at least one member of each of these bodies to attend to the issues and the problems of the Programme by participating in the regular DLS-related meetings of the University, would require more work than had been done to have the Programme accredited. Whereas pursuit of this matter was itself a problem, because of the Council members lingering disarray, the CS's routinization process was also giving rise to some new problems.

The initial welcome given to the resumption of the CS courses was giving way to the boredom of doing things routinely. The participants dealing directly with the CS system, particularly the academic staff, were seeking open ended avenues through which they could get out of the monotonous atmosphere that prevailed. Some of the things that had barely been regarded as important barriers to academic work in the early days of either the establishment of the University or the resumption of the

new CS courses were now being seen as such. The academic staff kept asking for more books, the latest periodicals, etc., pushed for the improvement of the library system, called for more financial resources for research, etc. However, the faculties differed in the amount of demands they were making; the ones that had been quicker in overcoming the implementation problems of the new CS made more demands than the others.

Struggling with the problems of implementing the Programme while having to deal with the issues stemming from the routinization of the CS, overstretched the academic vice-president to such an extent that he gave up his role as the acting dean of the faculty as soon as he had found a member of that faculty to fill this position.

When he was freed from direct involvement with the DLS, the Programme, Dousti had a broader and more realistic view of what was involved in its implementation. He appreciated that the dean of the DL Faculty would need more freedom to act than he had previously thought and that the formal procedures would have to be relaxed. He indicated this to Modeeri and his counterparts. Edari, his old friend, who was more likely to change his attitude to the president and to agree on the relaxation of the rules, adherence to which seemed a matter of principle to him, did not stay in office any longer.

While Dousti was busily engaged in the DL matters, his counterparts, old and new, made another attempt to publicize

what they regarded as yet more misdemeanours by Modeeri. In an open letter they sent to the faculties, they implied that the president had used his position for making personal gains. Edari had probably been inspired by Borhani to write that latter. Having written that, he began to suspect Borhani's motives and stopped doing such things anymore. Instead, he submitted his resignation and went on leave until it was accepted.

Modeeri attributed Edari's resignation to his fatigue, which was very likely to have been caused by hard work. But Edari implied that he was leaving because he had been involved in activities that had put him under such moral strain with which he could no longer cope.

The activities he referred to were his own and his colleagues' attempts to preempt anything that the president might do to make them a prey to his "gamesmanship", a quality that they themselves praised in Modeeri's behaviour. Edari had come to realize that the fear of this was only illusory, but it had driven him and Dousti to assist with the fulfilment of Borhani's intent. Borhani's intent was personal, as Edari had realized later, whereas he always wanted to serve organizational goals rather than any one individual's personal objectives. What was more, he had been warned by his friends that by persisting in the above activities, he would be discrediting himself rather than implanting any principle, which he claimed he was trying to do; that only rules and

procedures are capable of making an organization functional.

Bohani's intent seemed to relate to his cynicism and frustration. As a matter of fact, once these states of mind were openly attributed to the way he behaved, he was never apologetic. Rather, referring to his past experience, he justified the attitude he had adopted. He explained both to Modeeri and to his allies that as the ex-president's VP for personnel and finance, he had only tried to act in line with his boss's decisions and the exigencies of the time. However, because those decisions had turned out not be the best ones, the then president and his aides had been blamed for the consequences. That president had left the University, therefore, he, who had been at the forefront of the execution of those decisions and policies, had been left to take much of the blame. He felt he was quite justified in trying to illustrate who was doing what. This, he thought, could clear him even from the past charges by illustrating that it is always the bosses who decide and the others only act upon those decisions.

Rightly or wrongly, the participants had considered him a trouble-maker and the conflicts in the Administrative Council were given as the evidence of such behaviour, which seemed to entail dire consequences. One of his allies, the academic VP, now seemed to be in opposition to him, while the other resigned lest he might be more deeply involved in the prevailing conflicts. The faculty deans were still in the process of getting deeply involved. Consequently, to save the University

from being even more embroiled in the continuing conflicts, the president terminated Borhani's office.

At the beginning of 1985, when the implementation of the Programme entered into its third term, the Administrative Council was finally relieved of the conflicts which it had endured for about a year. The subsequent calm gave the members an opportunity to assess the situation.

The situation was seen as more or less similar to that in which the defunct Advisory Committee had felt it necessary to know exactly why the external Policy-makers had brought the previous DL systems to a halt. They felt it was now necessary to find out precisely why the Policy-makers had become so unsympathetic towards the very Programme that they had officially accredited. It was believed that a well-researched answer to this question might suggest a way to realign the progress of the Programme, which was getting out of control. To find such an answer, advice was sought from some of the previous Advisory Committee members, who had observed the developments all along without themselves being closely involved since they had quit.

According to them neither the CCR nor the Ministry had ever been fully committed to the DLS. In explaining why they had legitimized the Programme in the first place, two reasons were suggested. First, the Policy-makers had approved of the Programme only to relocate the crisis that had beset them. Had they not approved of the DLS, they, who had once ruled out DL,

would have been under constant pressure to clarify the DL students' position while having to deal with a myriad of other issues. Once they had legitimized the Programme, at least in appearance, the pressure had been shifted to another location, to Ensani. Second, the approval of the Programme was a symbolic vote of confidence for the president. Because they had regarded the president as a credible individual, they had expressed their positive view of him by approving the Programme. However, the VPs' and Dr. Kari's damaging efforts had resulted in discrediting the president. This, in turn, had led the Policy-makers to withdraw their support for him and naturally for the Programme.

The above reasons for the external Policy-makers' failure to maintain commitment to the Programme were in all likelihood well-founded. Two of the persons suggesting them had close personal connections with some of the Policy-makers and had evidence to substantiate their arguments. What was said was suggesting a way of tackling the problematic situation. If the president's credibility had won the Policy-makers' approval of the Programme, it could win their approval of the requirements of the Programme as well. If a crisis had caused those people to do something about the DL students once, a similar situation might have the same effect again.

The two views, that the students' pressure on the Policy-makers and the president's credibility might bring about the Policy-makers' commitment to the Programme, could be verified

if Modeeri's credibility were restored and the responsiblity for the DL students shifted onto the Policy-makers. However, on the one hand, the president was determined to leave and would not make any effort to restore his crediblity. On the other hand, the students as well as several other interested individuals regarded the University, not any other body, as responsible for the Programme. Even then, Modeeri was willing to try to let the Policy-makers have a realistic feel for the problems before he left. The Policy-makers' appreciation of the problems, he thought, might help his successor.

At that time the Ministry and the CCR had become more integrated in formulating educational policies and the former was considering the development of a new DL system. For this, they required some background information and expert advice concerning distance learning in general. Much of what they sought was available in the University and could be used to lure the interested people to Ensani to be involved in the Programme. Although even this might not have been very effective in involving the Policy-makers in the Programme, it turned out that Modeeri need not have had worries about it. His ill-health and the events that transpired at that time rid him of all such worries. As the merger of another university with Ensani was approved, his resignation was finally accepted as well.

With the merger of the two educational organizations the resulting institution assumed the full status of a university.

A well-known full professor from one of the best-reputed universities of the country was made the chief administrator of this university which was re-named AALEM after a highly reputed Islamic theologian and philosopher. With a new group of people taking it over, Modeeri found some time to be hospitalized and to recover from the pains and strains he had been suffering all along.

11.6. The Path to The Routinization

After the marger, there was a need for a new structure for the new establishment and for the socialization of the members of the two universities. But these processes could not justify leaving the Programme unattended for long; the DL students would not let it.

Although the merger activities slowed down the progress of the Programme for some time, the Policy-makers' willingness to uphold the new president in tackling the problems of the University made up for the time that had been lost. Hence they approved of two or three of the previous suggestions concerning the implementation of the Programme. Whereas the approval of those looked like a breakthrough, the Policy-makers did not make any futher move by way of responding to the university people's expectations. However, the Ministry's inadvertant act with respect to the Programme brought such a pressure to bear on them that it seemed they would eventually be forced to succumb to the University's demands for the implementation of

the DLS.

By that time a good number of the two-phase DL students had completed 70 course units. Therefore, according to the Programme (see, Appendix C) the responsibility for the transfer of those students to the corresponding CS courses shifted onto the Ministry. The Ministry should have redirected them to the other universities as they had agreed to do. However, one of the new vice-presidents, who was responsible for the DL, announced the university's readiness to accomodate these students, not knowing what the previous arrangements had been with respect to the matter. At first the Ministry did not see the benefit of this mistake (because they would be relieved of the responsibility for the students). Hence, rather than letting the University go ahead, they indicated in writing that it was they who had to take care of those students. Having done that, they confronted two sets of pressures. From one side the other universities made it clear that they could admit only a few of these students because they lacked space and facilities. From the other side, the students pressed hard for uninterrupted education. As the Policy-makers were in no position to force unyielding universities to admit the students, they had to come to grips with the crisis situation themselves. They found no alternative but to turn to the AALEM for a solution to the problem.

This state of affairs created the conditions that, according to some members of the defunct Advisory Committee, would bring

about the Policy-makers' commitment to and involvement in the Programme. It had been indicated that sustained implementation of the Programme depended upon the Policy-makers' commitment to and involvement. It had also been said that this could not have come about unless the crisis posed by the DL students had continued to bother the Policy-makers and the latter had regarded the president as so credible that they had been prepared to succumb to his demands. The integrated Ministry and CCR had now accepted the crisis quite clearly and in writing, and regarded the new president, who might implement the DLS, as totally credible. Accordingly, if the foregoing propositions were right, the implementation of the Programme could be streamlined, at least insofar as it needed external support.

Although the situation appreared promising for the University, it should have been skilfully exploited to the advantage of the Programme. This required information on past events and direction relative to the future. Both of these happened to be available to the new president, as the previous personnel and finance VP had been reinstated and all the experience of Modeeri, who had been made the personal advisor to the new president after recovering from his illness, could be used extensively.

Bright though the outlook was, the satisfaction of these conditions did not appear to do as much as was expected. To be sure, a few more of the earlier suggestions were approved, the

new administrative council was assured of the Policy-makers'
support for what they were doing, and would do, with respect to
the Programme. But neither these people's involvement nor the
necessary resources seemed to be forthcoming. Even then, so
much that was done and the promises that were given resulted in
the activation of a few more education centres and the
resumption of more courses.

What was still at stake was the routinization of the Programme.
This could not come about unless new students were taken into
the System. Yet for some time there was no indication that the
Policy-makers would go along with such an idea, a situation
that caused AALEM participants to tend to look on the Programme
as a transient project, not wanting to do much about its full
implementation. The Policy-makers were not doing enough in
practice to prove to the participants that they were wrong in
the way they were treating the Programme. Nonetheless, the
Policy-makers' recent acts indicated that routinization of the
Programme might become a reality after all. Whatever led to
those acts seemed to have caused the Policy-makers to be both
committed to and involved with the Programme.

After the first post-Revolutionary five-year social-economic
plan had been in effect for about four years, it became
entirely evident that the existing universities which relied
only on the Conventional System could not produce so many
graduates as would be needed. It was also known, this time
with concrete evidence, that the graduates from the few new

universities that were being established would not be sufficient to fill the gap. Therefore, the merit of an innovative higher education system that could help to remove this discrepancy was appreciated more than ever before. The Policy-makers were convinced that such systems as the DLS can be a solution to the pressing problem.

The implications of this understanding have been encouraging for the university in question. More than nine million pounds has been allocated to the university to spend on this Programme alone. Human resources are in the pipeline. Some preparations have got underway for the admission of new students to the system late in 1988. Authority has been delegated to AALEM in making decisions on a wider range of policy issues, though still minor. Last but not least, two members of the Policy making bodies have been assigned to work closely with the university's Administrative Council to streamline the full implementation of the Programme as a major first step towards its routinization.

Part Three

The Analysis Of the Case

Introduction

To analyse the case, some of the dimensions of the DLS will be highlighted at the beginning. Attention will be then shifted to the process of the Innovation, to be followed by some of the impacts of individual, organizational, and environmental variables. The organizational elements comprise the dominant organizational culture and group. Some space will be devoted to a short review of the impact on the Innovation of questions of fairness and equity in organizations.

The description of the case implies that the Innovation process was political as well. However, in order to remain within the scope of our study, we will barely concentrate on such an aspect of the process. This is not to say that the politics of the Innovation were unimportant; indeed they deserve a study of their own.

No elaborate framework precedes the analyses of the influence on the Innovation of the individuals and the groups. The frameworks for the assessment of the influence of these factors can be found in Part One. However, despite the fact that oranizational culture was also covered in Part One, it is felt that a little more elaboration on this concept is justified given its complexity and multi-faceted nature.

The implications of the findings of this study for innovation theory as well as for practice are examined in Part 4. Moreover, on the basis of these analyses a brief agenda is offered for further research on innovation.

CHAPTER TWELVE

<u>The Dimensions of the Innovation</u>

The kind of feel one may want to have for an innovation in order to get a fair understanding of its interplay with organizational and other forces is likely to be only partially derived from the name that it is given. Such terms as technical, administrative, etc. do not define the nature of the innovation in that they do not say anything about such things as, for example, its <u>significance</u> or whether it is <u>slack</u> or <u>stress</u>.

Although one dimension of the innovation may represent an inherent quality, other dimensions do not. For example, everybody might have viewed significance as an inherent quality of, say, an electronic data-processing system when it was first introduced. However, whether that was slack or stress could not have been established by the observers without having seen it in relation to the organization that introduced it. These attributes of innovations are most likely to emerge when an innovation and the respective adoption unit are seen in relation to each other (Downs and Mohr, 1976).

The same innovation may be slack for one organization and stress for another, depending on the nature and differences in the possiblities of those organizations. It may be either slack or stress for the same organization depending on the

stage at which the organization is in its process of development. As we have seen, organizations have different phases of growth (Griener, 1972) or problem cycles (Tichy, 1981, 1983). Hence the introduction of, say, a computerized inventory system may be a stress innovation for a newly established firm suffering from a shortage of resources. However, the same innovation may be slack for the same firm after it has developed successfully to accumulate adequate resources.

In view of the above, we will look at the DLS from the perspective of the Organization that adopted it so that we may identify its dimensions. We will look to see, following the elements used for the categorization of innovations in Ch.3, what its referent, significance, situation, and purpose were.

The Distance Learning System (DLS), or Programme, was a service innovation. Nevertheless, it could have been adopted by the organizational actors for any one or more of three purposes; pragmatic, prestige, or structural benefits (see 3.4). It was originally adopted for a pragmatic benefit. Much had been done for the new Conventional System (CS) from which the relevant students benefited, but barely anything had been done for the DL students. Therefore, while CS students actually resumed their lessons in due time, the future was bleak for the DL students. This had confronted the University with a performance gap. It was expected to do something for all its students whereas it had only attended to some of them.

Although the DLS might have had latent purposes, it was mainly expected to bring pragmatic benefits to the University by filling the said gap.

Although students may be called organizational transient members, the area of ultimate impact of the Innovation fell outside the University. Therefore, borrowing Mohr's (1973) terms for organizational goals (i.e. transitive and reflexive), the Programme was a transitive innovation in that it was externally oriented.

Considering the circumstances under which the University was engaged in the Innovation, we are justified in calling it a stress innovation. The Programme was introduced when some of the problems caused by the merger of the higher educational institutions had still not been resolved. A lot of the resources of the newly formed constellation had been given away by the previous administrators. The situation had been made even worse because a new Conventional System of higher education was in the process of being implemented, and it was using up whatever resources that had been left over. Moreover, the new administration had not had enough time to achieve much success in boosting the public image of the University, something which might have persuaded the relevant Policy-makers to provide it with the resource requirements for the Programme.

The Programme was certainly a significant innovation to the University. If significance is viewed as having two

dimensions, namely depth (the extent to which it requires the participants to perform unprecedented tasks) and breadth (the extent to which it calls for the involvement of more participants)(see, Ch.3), then the Programme was more broad than deep. Pervasiveness of the Innovation should be seen relative to the situation of the University. The Programme need not have been so pervasive if there had been adequate resources for its implementation. However, almost all the participants had to do more work to make up for the human resources that were in short supply. Even the stewards were involved because they had to work over-time to take care of the weekend and long holiday classes that were held for the DL students.

This pervasive Programme was also a strategic innovation for the Organization's actors although some of the Policy-makers saw it only as a solution to a tentative problem caused by the existing DL students. Whereas for quite a while, the participants had no doubts that once it had been implemented, new students would be recruited, the Policy-makers thought the DLS could be abolished altogether once the existing students graduated.

Although the Innovation might not have been adventurous in a slack or even in an ordinary situation, it was certainly risky in a state of organizational stress. Not only the shortage of resources but also the lack of full, or sustained, support for the undertaking by some of the Policy-makers made it risky.

The uncertainty about the future of the University turned the risk attached to the Innovation to a question of uncertainty as well. The amount of risk and uncertainty involved might have been lowered to some extent if the Programme could have been implemented on a very limited scale for a reasonable period of time until some of its unpredictable shortcomings or problems were realized and overcome. However, the immensity of the pressure that the DL students and their influential sympathizers exerted on the University for the inclusion of all those students in the System, immediately after it had been put into effect, meant that the Programme was implemented on a small scale only for a very short while. Therefore, the Programme was implemented on a wider scale despite the lack of all the necessary resources, thereby exacerbating the situation even more.

The Innovation was not introduced in its ultimate form in Grossman'(1970) sense. The Policy-makers were offered two options as to the methods of introducing the Programme. In the first option, the Programme would be delayed for some time until all its requirements and components, e.g. resources, self-teaching materials, educational films, etc. were ready. In the second, the Programme could be put into effect immediately, after its legitimation, in the form of a conventional system with some modifications. It was planned that if the Policy-makers favoured both the Programme and the second option, the necessary materials and films should be introduced as they became ready. The Policy-makers chose the second

option, which only delayed the introduction of the Programme in its ultimate form. Therefore, in its transitory form, the Programme was a vehicle for its smooth implementation in its ultimate form. Hence, in its early execution stage, the Programme represented an instrumental innovation (Grossman, 1970), i.e., a preliminary innovation that can make for the subsequent implementation of the innovation in the form that is in fact intended.

To sum up, the Programme was a service innovation intended for responding to the demands on the University of the DL students. It was more a stress than a slack innovation because it was introduced in a situation where there was a shortage of required human and financial resources. It was significant to the Organization because it called for the involvement of almost all the participants of the University. It was not deep, in requiring the participants to perform extremely unprecedented tasks, but it was risky and uncertain because it was introduced in a parsimonious and uncertain situation. The purpose of the Innovation was pragmatic because it was intended for closing a performance gap. Finally, the Programme was introduced as a transitive, though instrumental, innovation in that it was externally oriented.

CHAPTER THIRTEEN

The Process of the DLS

As was noted in Chapter 5, theorists have been divided in their views concerning the nature of innovation. Some (Kimberly, 1981) have not seen it as a process so much as a concrete idea, service, etc. Some (e.g. Rogers and Shoemaker, 1971) have, in referring to it as a process, regarded it as a mental decision-making process. Some (Zaltman et al., 1973) have tended to treat innovation as an organizational process. We have also seen that even if innovation is not deliberately staged, it is likely to unravel in stages (Rich and Zaltman, 1978). Indeed, our case lends support to Rich and Zaltman. Although the Innovation under study was neither planned as a process nor meant to contain any stages, it developed processually and in stages. This finding is barely novel. However, the case study offers more than the proposition that an innovation advances processually whether it is planned or not. Our findings suggest that an innovation process can be much more complex than has been widely assumed it to be. The following paragraphs may elicit some of those complexities.

13.1.The Characteristics of The Process

13.1.1.The Pattern of the Process

Like an organizational chart, the process had a structure which was static in appearance. It was that structure which we used

241

as the framework for the description of the case. We will refer to that structure as the overt attribute of the process. However, like the reality of organization, the reality of the process was dynamic and volatile. It was more than just a combination of some very orderly related events and activies. We will refer to that reality as the covert aspect of the process. With this brief introduction in mind, let us proceed by examining the nature of the process.

The stages observed were hardly single events or acts occurring or being performed only once at a distinct period of time. Rather, each represented a process in its own right, or a sub-process relative to the whole process. Once it had appeared, each sub-process, except for the Preliminary Implementation which was covered by its succeeding sub-process, was pushed to the background rather than being totally dropped from the whole process. Each of them was distinctively dominant at one period in the observed life history of the Innovation and was thus justified in being treated as a component of the whole process. However, one or more of the preceding sub-processes was liable to move from the background to the foreground when a subsequent one was in progress. Hence when the DLS was being formulated, the subject of whether or not there was a need for it was discussed, i.e., the Problem Realization Sub-process was evoked. Another subject for discussion was whether or not the amount and type of information that had been gathered was adequate. This led to the repeated evaluation of the available data and to the collection of some more, i.e. the Information

Gathering Sub-process was evoked.

It was not simply that the previous stages were a topic for discussion in the ensuing sub-processes. More often than not, the participants got involved in activities similar to the ones involved in the preceding sub-processes. Accordingly, if, at one stage, the incumbents were engaged in having the Programme, or the idea of a DLS, given its generality and ambiguity, legitimized, they endeavoured to have some DLS-related procedures approved while it was being implemented.

The above observation suggests that the Innovation stages or sub-processes, whatever their content, were not one-shot acts or solid blocks, capable of being laid neatly one after the other. They overlapped significantly and recurred as the Programme progressed. Normann's (1977, 1985) conceptualization of the evolution of strategies as a "spiraling" process is very close to what we called the recurring nature of the sub-processes of the DLS. Normann summarized his "process view of planning" thus:

> ...strategies evolve as a result of a process that has at least three key elements: formulation of a vision; action based on that vision; interpretation and reflection based on that action and its outcome. Then the sequence starts again: the vision is further clarified, new action is taken, there is food for more reflection, and so on. There are very few instances of strategic change that are not best described in terms of such a spiraling process. (Normann, 1985:220)

Pressman and Wildavsky's (1973) reference to the stages of

programme implementation as being related "from back to front as well as from front to back" also seems to point to the above characteristic of the DLS innovation process.

Although going "from back to front" may suggest that we are implying that a preceding sub-process came after a succeeding one, this is not at all what we mean by the recurring nature of the sub-processes. What is meant is that in a succeeding sub-process, the preceding ones were repeated in the same general form as they had emerged previously, but most often with a narrower scope. Accordingly, when it came to the Formulation of Strategy for Implementation, it was necessary to re-define the Programme to see how it could be best adapted to the possibilities in the University. But to find out about those possibilities, some information was needed, not only about such things, but also about what exactly the Programme required. This, in turn, triggered an information gathering process which was similar to an earlier sub-process in _form_, if not in _content_. Moreover, when the information was gathered, the Programme was re-formulated so as to be implementable. It was certainly not changed in a general sense, it was only defined in the light of the new information input so that its implications for implementation could be better understood.

Although the recurrence of the sub-processes in this case may be related to the nature of the Innovation, which was not well-planned in advance, there is, at least, one other explanation for this behaviour of the sub-processes. This is that a

programme, policy, or whatever, of this nature must be highly specific to be capable of execution even if it is well planned at the policy-making level. Authors such as Dunsire (1978), have noted that a policy is pushed along a scale from high generality/low specificity to low generality/high specificity before it can be implemented. Accordingly, the repetition of a previous sub-process in the next was mainly indicative of attempts at turning the Programme from more general to more specific, from a more abstract to a more concrete phenomenon, from thought to action.

In view of the above, one can conclude that the sub-processes were repetitious but not necessarily continual. This conclusion is justified insofar as it relates to the sub-processes involved in the Initiation and initial implementation phases. We saw, for example, that Formulation of the Programme did not carry on incessantly from its inception up to the implementation point. It left off for some time until it was evoked by the requirements of a later sub-process. As such, it was only when the re-definition of the Programme was needed in the Strategy Formulation Sub-process that its re-formulation was attempted. However, the closer the Innovation approached to the routinization stage, the less repetitious, or the more continual, the sub-processes became. Therefore, it felt as if the Innovation was being established. The ones that remained in continual motion were the Diffusion, Resource Acquisition, and Large Scale Implementation Sub-processes. Although in the latter sub-process, the two previous ones were still running in

parallel with it, one would have expected that they would peter out in the Routinization Sub-process unless constant improvement and modifications were intended and all the other conditions held. It can be said that almost all the sub-processes were repeated though each repetition varied, to some extent, from the one before and each instance of the reappearance of a sub-process was triggered by a subsequent one. Figure 3-1 may depict a very simplified pattern of the development of the DLS.

Because in Figure 3-1, the sub-processes are illustrated vertically these may be taken to represent a hierarchy of authority with each one or more sub-processes portraying the hierarchical position(s) of the people involved in that or other sub-processes. Although, of course, this was also the case, the Programme did not proceed up-and-down and down-and-up hierarchically only. It developed horizontally and locally, within a jurisdiction or people's minds, as well.

The Programme proceeded up and down hierarchically when, for example, an unscheduled component was to be added to it by a lower unit that needed someone in a higher level of authority to approve it. It developed laterally because counterparts at the same level, e.g. one faculty and the others, had to cooperate in the implementation of the Programme and also because its execution demanded certain acts by those counterparts who were not even directly involved in the Programme. It

Figure 3-1.   The pattern of the development of the DLS.

Problem realization

Information gathering

Programme formulation

Attitude formation

Formal Legitimation

Strategy formulation

Diffusion (Intra-organizational)

Resource acquisition,etc.

Preliminary implementation

Large scale implementation

Routinization?

High generality/   High specificity/
Low specificity   Low generality
TIME
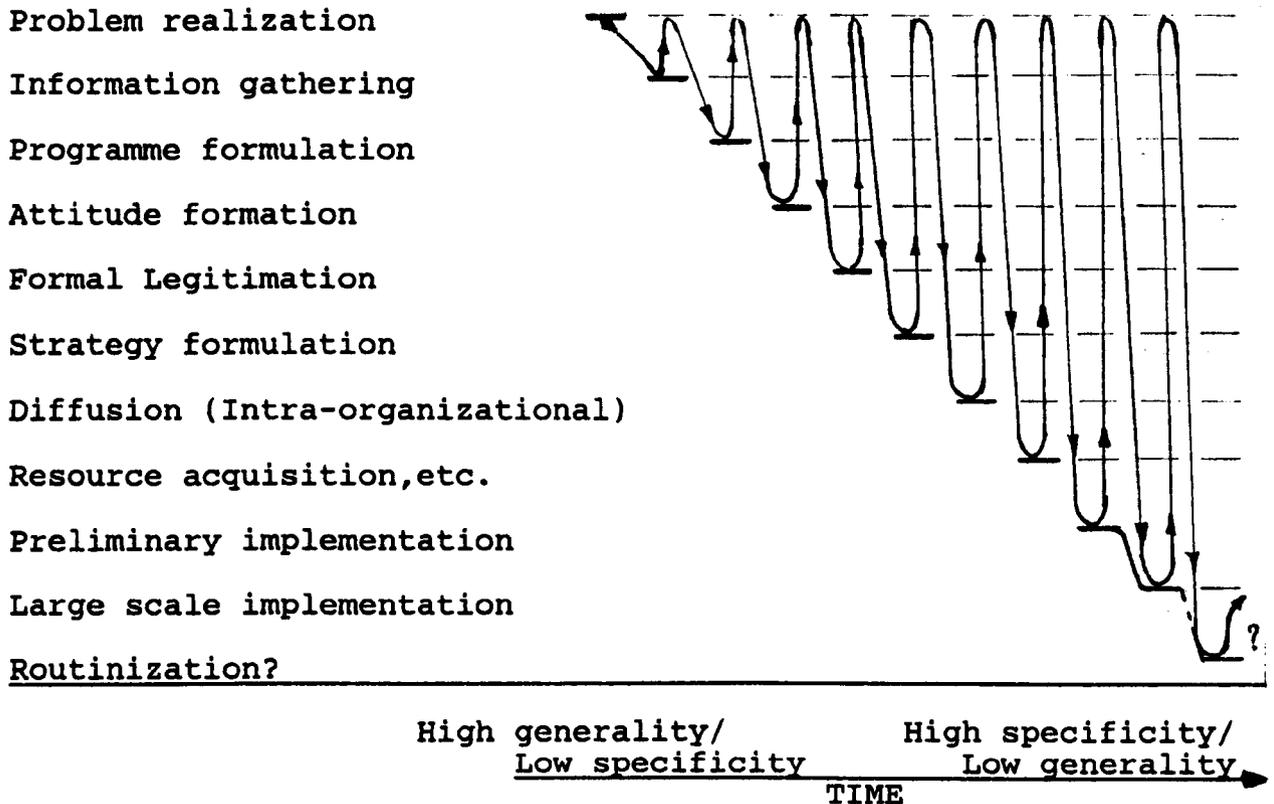
Description of the figure: The above figure depicts the
development pattern of the Programme along a continuum,
with high   generality at   the   beginning   and   high
specificity at   the end of   it.   Each small   black   line
represents the   beginning of a sub-process   when it was
dominant.   The   pauses emerging   in the course   of each
sub-process are   indicated by   breaks.   The   sine curve
displays   the repetative   nature of   the sub-processes.
Each loop also   represents a feedback loop   as the sine
cure   manifests   the   continual   evaluation   of   the
Innovation as   well.   When a preceding   sub-process was
covered by   a succeeding one, i.e.   the Preliminary and
the Large Scale   Implementations, without interruption,
the lines representing them are connected.

developed locally, within one jurisdiction, or "province"
(March and Simon, 1958), when, for instance, the head of a
department, a committee, etc. wanted to make sense of the whole
thing and to locate where his and/or their contributions could
fit into the picture and what exactly they had to be.

Both the hierarchical and the lateral developments of the
Innovation were frequently accompanied by the physical movement
of some Programme-related materials, e.g. blueprint,
directives, momoranda, etc., and are depicted graphically
(Figure, 3-2).

Figure 3-2. A Simplified Pattern of the hierarchical and latera
development of the Programme.
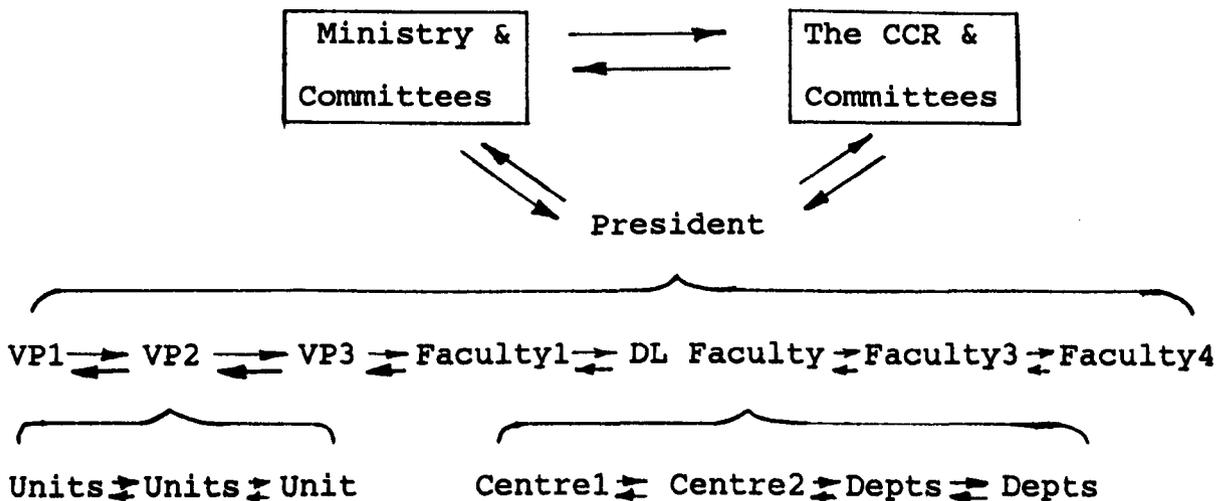
Local development of the Programme did not merely have a physical antecedent in terms of exchange of written material; it was predominantly a mental process which manifested itself through the discussion and/or questions raised about one or another aspect of the Programme. For example, almost every time the emergence of a new sub-process involved them, the question of whether or not the Programme was needed at all and could solve the DL students' problems was a subject for repeated discussions in the committees, units, etc. in both the University and the relevant Policy-making establishments.

13.1.2.The Multiplicative Nature of the Process

The Programme may be called a "parallel innovation" (Kimberly, 1981) because it was introduced together with another one. However, if undertaking two innovations at the same time can justify calling each one a parallel innovation, then a lot of innovations qualify to be labelled as such, even without their adopters noticing this quality.

If we accept that an organization, particularly a newly established one, is itself an innovation (e.g. Knight, 1967; Levine, 1980), then any innovation undertaken by that oganization will be a parallel innovation relative to the adoption unit. Moreover, given the organizational life cycle and/or development process (see 4.3), which may be conceptualized as the process of an innovation, then it may be said that the processes of the two innovations interact. Hence

the institutionalization process of one, the organization, which may be characterized by higher formalization, may inhibit the smooth flow of the other, which may require a lower formalization.

Considering that the adoption unit of the DLS was, in a sense, a newly formed organization, the DLS may be seen as a parallel innovation. Not only that, but it was parallel to the new CS as well. However, even without considering the other two innovations, the DLS was still parallel innovations in view of the manner in which it branched out.

In view of the fact that the DLS had to be implemented by structurally rather identical education centres, the DLS branched out into several streams parallel to one another. As such, one innovation became parallel innovations. Its duplication, as it occured, created several parallel processes as well. To the extent that the Education Centres differed from one another in the amount of resources (including, among others, the participants' competence and their access to data and information), each tended to be later or earlier than the others in any one of the sub-processes of the Innovation. Hence when one centre was ready for the small scale implementation, the other was still trying to figure out how the Programme could be handled.

As was pointed out above, the Programme was pushed from a high degree of generality to a high degree of specificity. This

pattern in the development of the Programme resulted in the generation of new rules and procedures or, roughly speaking, small innovations. To clarify the matter, the adaptation and implementation of the Programme, as the case material indicated, called for some new procedures, which resulted in the development of some new rules. The new rules and procedures, however, necessitated a new decision-making structure. If these are regarded as programmes in their own right, it may be justifiable to say that a programme was created within a programme. This generative quality of the DLS resembles Dunsire's (1978) conceptualization of more specific policies emerging within the general ones as programme-within-programme-within-programme. Given this peculiar characteristic of the Innovation, it may be fair to talk about innovation as a <u>set</u> or <u>package</u>.

13.1.3. The Innovation as an Influence Process

The Programme was an influence process to the extent that all the top administrators tried to accommodate the resource requirements of its implementation by making the Organization more efficient. This was to be done by exerting tighter contol over the use of resources. Control was to be achieved by formalization. Moreover, the Programme was an influence process insofar as it competed with other programmes, e.g. with the student welfare programme, and to the extent that some of the members, the VP's in particular, saw it as entangled in uncertainty. To cope with that uncertainty, those participants

sought to intensify the degree of formalization in the Organization. They thought that the rules and procedures could buffer them against any possible undesirable consequences of the undertaking. We will turn to this matter later but it is worth treating the structural influence of the process a little more.

The organizational literature in general and the organizational life cycle material in particular indicate that the organizational requirements of stability (e.g. Thompson, 1967) or of development (see 4.3 and Quinn and Cameron, 1983) lead to formalization. Indeed, either the University's, or more precisely its members', quest for stability and/or development was leading it to be formalized. But the formalization process was very slow. The members were so used to doing things informally that one wonders whether the University could have ever been formalized as quickly as it in fact did without the influence of the Innovation process.

When the DLS led to a greater formalization of roles, it had not yet been fully developed. Not only did it demand some resources, it called for the legitimation of some of the unanticipated components. Given the escalating pressure for its hasty implementation, securing the resources and the legitimation of those components was a matter of urgency, which needed a swift and free flow of communication. Hence formalization was totally incompatible with its smooth progression. However, formalization could and did make the

implementation of the other system, the CS, effective. The CS had been fairly well developed and almost all the resources had been allocated to its requirements. Accordingly, a relatively bureaucratic system, albeit with sluggish communication channels, could accomodate it.

Once it was found that a more formalized stucture was effective in implementing the CS, the formalization was intensified even more. As such the Organization was moved to such a high degree of formalization that rules, as the means, tended to replace the goal, the implementation of the DLS. In other words, the Innovation influenced, or at least became an excuse for influencing, the formalization process to such an extent that goal displacement (Likert, 1961; Warner and Havens, 1968; Merton, 1968) resulted (Figure. 3-3).

Figure 3-3. The structural influence of the DLS process

Effect on the DLS process   Impeding

The DLS process

| 1 | Mild intensification for skimming organizational resources for the DLS | 4 | Strict intensification to cope with the DLS uncertainty |

The organizational formalization process ◀— I N T E N S I F I C A T I O N ▷ G O A L DIS PLACE MENT

2 3   5

The CS process

Effect on the   Streamlined   Stagnated
CS execution
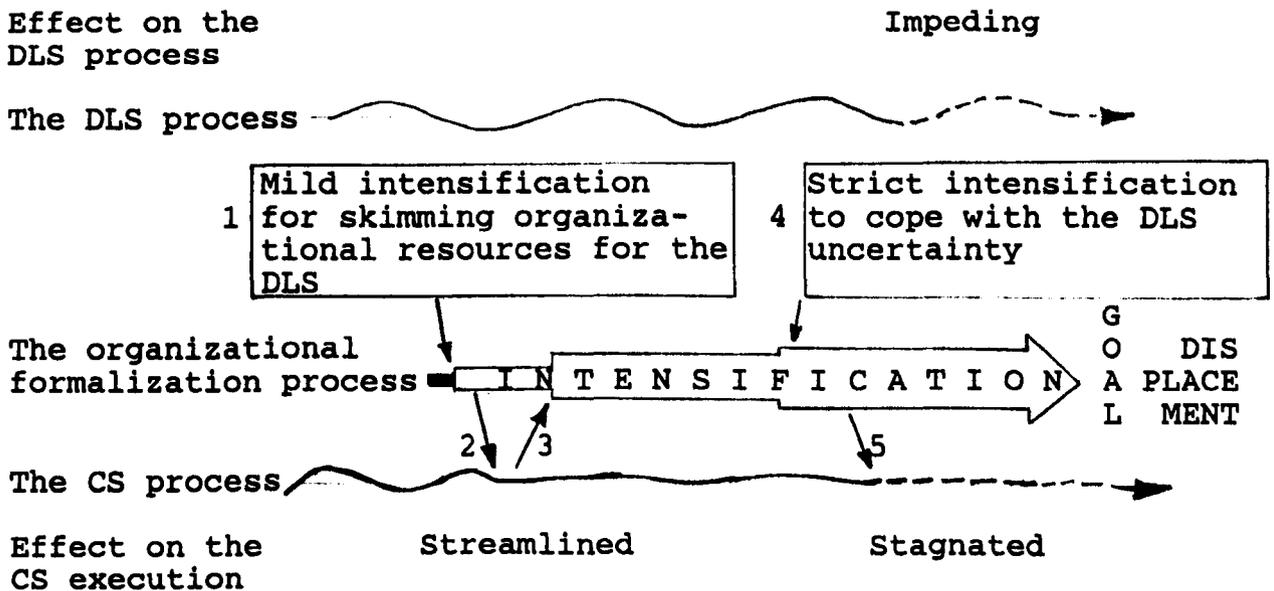
13.1.4.The Process as a Network of Assumptions

Thus far we have mostly been concerned with the _form_ of the process. To have a better insight into it, however, we should look at its substantive _content_ as well. The participants' views of the Innovation can be a good starting point.

There were almost as many specific views held about the Innovation as there were participants. Nevertheless, we will concentrate mainly on a few of the dominant views that were shared by the groups of people involved. Those few views are sufficient to shed some light on the manner in which the Innovation was dealt with so that it could proceed in the way described above. Because we only intend, at this stage, to broaden our general understanding of the structure and process of the Innovation, we will not specifically attend to such issues as people's motivation and attitudes. At the same time, we shall bear in mind that it may be impossible to detach people's views from the influence of their motivation and attitudes.

The participants' views of the DLS had something in common when they first got involved in it. They saw a vague idea that was meant to solve a problem, which was itself probably just as vague to several of them. That vagueness stemmed originally from their inadequate knowledge of all aspects of the Programme; even its initiators were not fully clear about such things as, for example, how exactly it could be implemented and what type and amount of resources that would demand. This

observation is very similar to that of Gross et al.'s (1971).
In their case study of an organizational innovation, they
identified a lack of clarity of the innovation as a major
barrier to its smooth implementation. However, they tended to
blame the administrators for the lack of clarity of the
innovation without realizing that an innovation may not be
fully clarified before it has been fully realized.

Some degree of ambiguity seems to be inherent in innovation
because its implications normally surface only as it proceeds.
If an innovation process is seen as a decision process, as has
been suggested by several authors (e.g. Rogers and Shoemaker,
1971), then Barnard's (1938) assertion about one general
attribute of the latter can help to explain what we mean.
According to him:

> ... the process of decision is one of successive
> approximation - constant refinement of purpose, closer
> and closer discrimination of fact - in which the march of
> time is essential. Hence those who make general
> decisions can only envisage conditions in general and
> vaguely. The approximations with which they deal are
> symbols covering a multitude of undisclosed details.
> (Barnard, 1938:206) [Emphasis added]

If all the participants could have only lived with that
vagueness until the "march of time" had led the Programme to
disclose its reality, the Innovation process might have been
less complex. However, they could not have worked with it if
they had not reduced such ambiguity to a bearable level. Had
they given the Programme sufficient attention at the time of
their initial involvement in it, their ambiguity-reduction
efforts might have produced better outcomes than they actually

did. But the leading participants were faced with problems of short deadlines, high work load, and stagnation at the lower levels. As a result, even if their attitude towards the undertaking was favourable and they were all highly motivated to pay adequate attention to it, they were constrained by those problems. Consequently, they relied upon assumptions about those aspects of the Programme that were unclear to them.

The top administrators and those indirectly related to the DLS, i.e. the CS faculty members, made few assumptions about the nature of the Programme itself. Instead they did so relative to the 'stakeholders' in the DLS or some of its implications. As Mitroff (1983) noted, those involved in decision-making situations make assumptions about the stakeholders, i.e. those that affect or are affected by the decisions, such as clients/ customers, stockholders, suppliers, government, etc. They do so because they have no knowledge of how the stakeholders are likely to behave in all situations.

In this case the Advisory Committee members assumed that the Policy-makers would react favourably to the requirements of the implementation of the Programme. Contrariwise, they thought that the academic staff would be totally uncooperative in executing the System. However, most of the academic staff, assuming that the DLS implementation would increase the possibility of their income rising, without damaging their interests, turned out to be cooperative.

Just as the above members made some assumptions in connection with the DLS, so too did the other participants. Their assumptions, however, were mostly related to the Programme. In their initial encounter with it, they first took an aspect of the Programme as given. More often than not, they then drew conclusions about its other aspects if and when they realized that these had to be addressed before they could work with it. In other words, if the Programme is seen as a system (von Bertalanffy, 1968) or, roughly speaking, as a mosaic consisting of interrelated rules, procedures, curricula, etc. and having several implications, they either took the Programme in general as given and drew inferences from that about one or more of its components, or they took one or more of those components for granted and drew conclusions about the rest of them or about the Programme in general.

Moving from the general to the specific and vice versa, which resembled deductive and inductive reasoning processes, appeared to be the predominant features of the methods which the CCR and the Ministry, on the one side, and the centre directors, on the other, adopted in dealing with the Programme when they were first faced with it.

The CCR and the Ministry began with the generality of the Programme because they were concerned with policies, systems, etc. at national level. Regardless of the specific differences between different types of distance learning systems, they associated the Programme with what they saw as the real

attributes of distance learning in general. Although, for good reasons, it was justifiable to classify the Programme as a kind of conventional learning system, their minimal knowledge of distance learning and their inadequate attention to the DLS, led them to see it as a system whereby knowledge transfer could be taken care of <u>solely</u> by some impersonal media of communication such as tapes, letters, and books.

The top members of both the CCR and the Ministry shared the same general view of the DLS. However, their assumptions about the more specific aspects of the Programme differed and they drew different conclusions from it. Indeed, their conclusions differed insomuch as their scope of concern varied. The Ministry and the CCR, as we know, had concerned themselves with, respectively, the quantity of students and the quality of work done within the higher education sphere.

According to the Ministry, education would be taken to the students, so that the latter would not have to go to the place of education. Hence the students would not require things such as classes and dormitories. More students could be absorbed into the higher learning system without having to deploy as much resources as had to be deployed for taking the same number of students into a conventional system. The CCR members arrived at a different conclusion by starting from the same premise concerning the DLS, or to be more precise, about their idea of distance learning. They thought that the DLS would depend <u>solely</u> upon some impersonal media for knowledge transfer

and that there would be no face-to-face interaction between teachers and students whereby some practical subjects could be taught effectively. Hence they concluded that the quality of teaching would be compromised.

Like the others, the centre directors made assumptions about the Programme and its implications for themselves. Their assumptions were related partly to the extent to which the DLS could make them indespensible to the Organization and partly to the nature of the Programme. As regards the Programme, they saw it as a set of rules, procedures, curricula, etc. Because they had previously implemented systems similar to the DLS, they had repertories of experiences and specific action plans or "performance programs" (March and Simon, 1958). These, they thought, would be equally applicable to the implementation of the Programme. In the light of their knowledge of those specificities, they therefore made assumptions about the Programme in general; they thought it was no different from its predecessors.

The above exemplify only a few of the dominant assumptions some of the participants made about the DLS. Even then, they are sufficient to tell us at least two things. First, there was hardly any one who could see the reality of the DLS and its implications when they came first into contact with it. Rather, depending on the situations when they first came into contact with the Programme, the groups involved saw it the way they wanted to see it. And because it had not yet had any

tangible manifestation, they perceived it just as an idea, that is the idea of a Programme, rather than the Programme itself. Second, the Innovation was potentially conflictual insofar as the people involved held different and, frequently, contradictory assumptions about it.

Given those contradictory assumptions about the Programme, it could, at best, have remained a subject for debate until a consensus was reached over its adoption or rejection. In the absence of such a consensus, one may wonder how the Innovation was ever accepted for implementation.

The Programme was approved for implementation because not all those that expressed their views were involved in the DLS at the same time. Another factor was the limited range of options available and the pressures of the circumstances. On the one hand, there was only one solution, the Programme, that had been developed for the DL students' problem. On the other hand, the students' pressure and the demands for university graduates were such that even those whose assumptions could have led to the rejection of the Programme were forced to succumb to its adoption. But because their support for the Programme was only a reaction to those pressures, they either approved of or undertook it as "dissonant adopters" (Rogers and Shoemaker, 1971).

The different assumptions might have coexited without posing any conflict if (1) the Innovation had not gone beyond the

Initiation Phase; (2) the Innovation process was linear, i.e. one sub-process followed another without the preceding sub-process being repeated; or (3) the progress of the Innovation did not require some individuals' or groups' decisions and actions to bear on the decisions and actions of the others. Moreover, (4) if the assumptions had converged over time, or (5) if the participants had communicated in such a manner that they could have reached a common ground for their assumptions, the Innovation still might not have been a source of conflict even if it moved to the Implementation Phase and the first three conditions held. However, whereas the first three conditions, which made the Programme a potential source of conflict, existed, the other two, that could have resolved the conflicts, were absent. Accordingly, the Innovation, as a conflict-inducing process, gathered momentum as it gradually moved up and down as well as out and in.

13.1.5.The Verification of Assumptions

As indicated above, the participants made assumptions about the DLS, its consequences, and the stakeholders, when they first encountered it. However, the requirements of the implementation phase challenged those assumptions whether they liked it or not. The assumption that the DLS would not require human and financial resources was insufficient to make it appear even less demanding. The logic of the Programme almost always seemed to be at odds with the rationale on which the individuals or groups based their assumptions. But it appears

as if the logic of the DLS could not have had any consequences before the Programme had begun finding a tangible or observable expression.

Having gained the Policy-makers' consent, the Advisory Committee realized that the Programme had to be reduced to something specific so that they were as clear as possible about what was to be realized. Had it not been brought into focus, the members would have continued to quibble over the implementation requirements of different systems, which were the products of different individuals' minds, and each of which was only a shade of the DLS. Hence in the Strategy Fomulation Sub-process, they sat down and decided upon what the DLS actually was, or what exactly they wanted it to be. It was only then that they were certain that <u>without</u> setting up four new centres, which required the Policy-maker's approval, the execution of the Programme would cause serious problems.

Asking for approval for the centres created one of the loops in the process as it impelled the Policy-makers to assess their initial views of the System. According to them, since the System was there so that knowledge could be taken to the students' homes, there would be no need for new centres. This first implication of the Programme impelled the Policy-makers to go through a process similar to the one they had been through when they had been deciding on the Programme; hence one of the down-and-up and in-and-outs of the process was created. This was not the last loop, as it was not the beginning. Later

the Committee figured out the resource requirements and later still the need for new rules for the adaptation of the Programme, and so on. As the resources, etc., that were required, needed the Policy-makers' approval, further loops were created in the process. The exercise forced the participants to assess and reassess their initial assumptions against the reality of the undertaking, which was surfacing bit by bit over time.

Each loop was normally triggered by the sub-processes, which followed one another. Each subsequent sub-process actively involved the individuals who may or may not have been marginally engaged in a preceding sub-process. As such, the Intra-organizational Diffusion sub-process brought in the centre directors, Resource Acquisition brought in some units, Preliminary Implementation brought in one group of students and so on. Having been actively involved, these individuals wanted to know exactly what the Programme required them to do. The centre directors, for example, had to be told precisely what, and how many, course units to offer, when to start the first term, how much money would be available to them for this thing and that thing and so on. Not only that, but the rules and procedures had to be interpreted repeatedly so that words could be translated into deeds consistently. Yet this was not the end of it.

The rules, procedures, and directives only barely covered all situations. Hence a centre director wanted to know, to give

just a commonplace example, whether the Committee meant it when they included him in the early Implementation Phase, which was to start in summer. Because his centre was located in an area where the summer temperature was normally above fifty degrees centigrade and the repair of their cooling system was not expected to finish until mid term, they would be in enormous difficulty if they accepted their assignment at that time.

The fact that the Innovation was not well-planned in advance, or was "adaptive" (see Appendix B) was certainly a factor that can explain why certain things had not been thought of before hand. That the higher echelons did not predict some situations, or were not aware of some of the others, was not peculiar to this innovation. Nor was it a unique requirement of such an innovation that it had to become specific. It has been noted (e.g. March and Simon, 1958; Galbraith, 1973) that it is impossible for managers to have full information or to be able to make the very routine decisions. Moreover, the need for clarity of purpose was noted years before. Barnard (1938) was one of the earliest who realized this when he said:

> ...Then district or bureau chiefs in turn become more and more specific, the sub-chiefs still more so as to place, group, time, until finally purpose is merely jobs, specific groups, definite men, definite times, accom- polished results. But meanwhile, back and forth, up and down, the communications pass, reporting obstacles, dif- ficulties, impossibilities, accomplishments; redefining, modifying purposes level after level.
>
> Thus the organization for the definition of purpose is the organization for the specification of work to do; and the specifications are made in their final stage when and where the work is being done. ...(1938: 232)

Barnard's "the specification of the work to do" was, in our

case, a requirement of the progress of the Programme, which drove the paricipants to succumb to it, though unconsciously. Passage of communications "back and forth, up and down" both vertically and horizontally presented the participants with those bits of the reality of the undertaking that were relevant to them. The involved stakeholders' overt reactions to the Programme were carried along with those communications. Hence each group of stakeholders became aware of each of the other's reactions to, and views of, the Programme. To be sure, the reactions and views of a group of stakeholders became better known to those with whom they communicated directly, e.g. the top administrators and the Policy-makers, the top administrators and the faculty deans, one dean and another, and so on.

Accordingly, almost all of the participants developed a better insight into the reality of the undertaking and one another's behaviour, at least relative to the Programme. Thus they had a chance to correct their earlier assumptions if these were incompatible with reality. However, not all of them, particularly not all of those at the higher levels, seemed willing to do so. There are several reasons to account for that unwillingness, but we will only attend to the two which seemed more significant and which could be readily grasped.

The first reason was that the higher individuals, particularly the Policy-makers, were mostly detached from the Programme. They concentrated on it only when they were asked to approve of a set of rules, curricula, etc. The intervals between the

periods of their involvement with Programme were filled with activities unrelated to the undertaking and usually lengthy enough for them to forget what their previous assumptions had been.

The second reason was these persons' tendency to regard as unreliable the evidence that challenged their initial assumptions about the Programme. This was very much like the way some authors react to the data they gather to test their hypotheses. If their findings are contrary to their expectations, they blame, justifiably or otherwise, the lack of support for their hypotheses on some methodological deficiencies, smallness of the sample size, etc. If somebody else were responsible for technical aspects of the research and they were to do the analysis, they might feel it even easier to question the reliability of the method used. In our case, the technical aspects of the work were carried out by Ensani. Therefore, it became a target of the Policy-makers' criticism if the latter's assumptions were challenged by those aspects of the Programme that were gradually brought to the fore as the University worked on its implementation. We may recall from the case study that a CCR member questioned the University president, rather than their own assumptions, when the latter gave only a specific account of the Programme in the opening session of an orientation programme in which that CCR member was present.

The Policy-makers and some of the University's higher echelons could justify their unrealistic assessment of their initial

assumptions on the grounds that they could only focus on the Innovation intermittently. They, unlike the lower echelons, were not so involved, nor were they constantly required to verify their assumptions. They might neither learn nor understand the nature of the problems fully.

Some authors (e.g. Tornatzky et al., 1983; Normann, 1985) noted that innovation is a learning process. Our discussion indicates that the DLS process was also a learning process. People could learn by doing. They had several opportunities to verify their assumptions by applying them to real situations. The lower echelons' sustained involvement in the Innovation would not let them get away with their assumptions if these were unrealistic. Hence they could understand the nature of the problems as these emerged and could develop an entirely intimate feel for the Innovation. They could learn what it took for the undertaking to be a success.

Ironically the people who could understand the Innovation did not have the key to the decisions and resources that could turn it into a success while the people who had that key, did not understand it.

13.2.A Comparison between the DLS and Some other Models

To the best of this author's knowledge, researchers who have developed the linear process models of innovation have not attempted to elicit and discuss such characteristics of innovation as those we called the covert peculiarities of the

DLS process. This may imply that the latter characteristics were only specific to our Programme. We should see therefore to what extent those were idiosyncratic before we turn to a comparison between the overt characteristics of the Programme and a few representative models.

We have demonstrated that some of the covert properties of the DLS process are similar to the attributes of implementation processes as captured by Pressman and Wildavsky (1973) and Dunsire (1978), although none of these authors have been particularly concerned with developing an implementation, if not an innovation, process model. This may imply that the recursive nature of the sub-processes noted above was at best a peculiarity of the Implementation Phase of the Programme. However, Normann's (1977) study of initiation and implementation of strategies in some Swedish organizations also suggest that recursiveness, or "spiraling", is a quality of the whole process of strategy evolution. Moreover, the assumption-making aspects of the DLS process have a parallel in Mitroff's (1983) work.

The impact of organizatonal properties, e.g. formalization, centralization, etc. on innovation has been noted by several authors (e.g. Hage and Aiken, 1967). However, it does not appear that much attention has been paid to the possible impact of innovation on organizational properties by students of either policy implementation or innovation. Furthermore, not much attention seems to have been paid to the duplicative

nature of innovation (not the generative aspect of policy which is addressed by Dunsire (1978)) or its branching out at its interface with identical organizational units. Hence the influence of the DLS process on the organizational processes and its branching out may appear to be a peculiarity of this particular innovation, its setting, or both. However, one prominant study on organization, not on innovation, has relevant themes from which one can infer that those characteristics are not peculiar to the DLS.

Crozier's (1964) assertion that, in his study, the members were buffered by the rules, that the identical units competed for the organizational resources, and that they made strategic use of their information, are all the relevant themes. Given the uncertainty involved in an innovation process, it is conceivable for the organizational members involved to emphasize rules, as they did in our case, to protect themselves against the possible undesirable consequences of the undertaking. The involvement of identical units, departments, divisions, etc. in the innovation, can make the same undertaking parallel innovations to the whole organization. This is the case insofar as the output of one unit, etc. is not the input of the other and insofar as they differ in their innovation handling capabilities as well as in the amount and the nature of the information they possess.

Unlike its covert aspects, the manifest aspect, or overt property, of the DLS process has several parallels in innova-

tion literature. Three process models are selected to be compared with the DLS's process paradigm. The first is the model which Rogers (1983) developed on the basis of his analysis, and synthesis, of quite a number of theoretical and empirical studies, as well as on his nearly three decades of work on innovation. The second is Clark's (1968), which emerged out of his study of an educational innovation in a French higher educational setting and which he claimed to be generic; not to be seen as issue and/or context specific. The third is a hypothetical one whose authors, Beyer and Trice (1982), associated with research result utilization, and not with innovation.

The rationale behind the choice of the first two is clear and does not require any elaboration, but it may be necessary to account for the choice of the third, which we shall do later. Let us now look at the DLS and the other trio which are juxtaposed in Table (3-1).

At first sight the models seem similar only insofar as they all contain some stages. But once one leaves aside the differences in the terminology used to define the stages or sub-processes and the sequence in which they appear, the models look more similar. For example, 'Formulation of potential innovation', 'Matching', 'Sensing and Search' together, and 'Formulation' are very nearly the same, just as are 'Evaluation of potential innovations', 'Redefining', 'Selection', and 'Strategy formulation'. Further analysis will reveal more similarities.

Table 3-1. Four innovation and research utilization models

	Clark (1968)	Rogers (1983)

Clark (1968)
1-Cumulative development
        of knowledge
2-Undirected discontent
3-Deviation from
        established norm
4-Application of method
        of social control
5-Social conflict
6-Formulation of
        potential innovations
7-Evaluation of
        potential innovations
8-Restricted trial
9-Adoption of innovation

Rogers (1983)
I-Initiation
    1-Agenda-setting
    (problem identification)
    2-Matching (a problem with
        an innovation)

II-Implementation (decision to adopt)
    3-Redefining/Restructuring (the
        innovation to fit the problem
        situation better)
    4-Clarifying (the relationship
        between the innovation and
        the adoption unit
    5-Routinizing

Beyer and Trice (1982)
I- Adoption Phase:
 1-Sensing
 2-Search
 3-Affective reaction
 4-Selection
 5-Adoption

II- Implementation Phase:
 6-Diffusion
 7-Receptivity

 8-Use
 9-Evaluation
10-Commitment
11-Institutionalization

The DLS Process
I- Initiation Phase:
    1-Problem realization
    2-Information gathering
    3-Formulation
    4-Attitude formation
    5-Formal legitimation

II- Implementation Phase:
    6-Strategy formulation
    7-Diffusion
    (Intra-organizational)
    8-Resource acquisition, etc.
    9-Preliminary implementation
    10-Large scale implementation
    11-Routinization

To account for these similarities, one may simply argue that snow-balling has led to these. Once developed, the first model diffused to shape the later authors' outlook. Because nothing may stop an innovation , i.e. the first process model in this case, from diffusing (Rogers and Shoemaker, 1971), a lot of people, certainly including researchers, have become aware of that innovation model. That knowledge may have formed the authors' frame of reference, which may have been imposed on the

reality. Indeed, as Kuhn (1962) implied, assumptions and paradigms are self-perpetuating. Their advocates tend to explain away those auguries that call the validity of those assumptions into question. This can explain why these innovation models have been similar at least in appearance. Such models may in fact continue to be similar unless a "scientific revolution" within the domain of innovation studies has changed our frame of reference.

Although there is hardly anything to refute the above, there are at least two other reasons which can account for the similarities between innovation models and a third reason explaining similarities between research utilization models and the rest. The first has to do with the logic of innovation, which explains why it develops as a process. Quinn's (1980) logic of incrementalism, which is conceptualized as being inherent in the development of policy, is what is meant by the logic of innovation. When Heertje (1979:34) said;"...ideas may come in flashes, their implementation is more a matter of steady process."[emphasis added], he, too, was referring to what we interpret as the logic of innovation.

Pressman and Wildavsky (1973) had already suggested what that logic comprised when they indicated:

> Considered as a whole, a program can be conceived of as
> a system in which each element is dependent on the
> other. Unless money is supplied, no facilities can be
> built, no new jobs can flow from them..., . A breakdown
> at one stage must be repaired, therefore, before it is
> possible to move on to the next.... (xv)

Because there must be something to be implemented, Pressman and Wildavsky took the preexistence of a policy for granted, and started with the financial requirements of the implementation of the "program".   However, to start from the initiation, one can say that unless there is an idea, unless that idea is approved, unless there is, at least, a rough estimate of the requirements of the execution of that idea and unless ..., there can be no implementation.

In view of the first reason for the similarities between the models, i.e. the logic of innovation, one hardly needs another explanation. However, the second reason can explain why process models may have commonalities not only across heterogeneous, or different types, of organizations but also across those residing in heterogeneous contexts.   Had there been a sufficient number of innovation models derived from empirical studies of this phenomenon in dissimilar organizations in heterogeneous contexts, direct comparison among models would be more enlightening.   In view of a shortage of such studies, however, we resort to an indirect method to see whether or not the similarities between the models are justified. We look at the relationship between some elements of the models and organizational structure.

The relationship between the innovation process and the organizational structure seems to be a source of similarities in the models. As was implied above, particularly

in the discussion of assumption making and legitimation, the decisions and assumptions that were peculiar to one sub-process as opposed to another, represented, among other things, the hierarchical levels of decision and/or assumption makers. Moreover, some of the sub-processes emerged only when a new group of participants got involved in the Innovation. Hence, it is fair to conclude that the structure of the DLS process, i.e. the sub-processes, represented, to some extent, the structure of the Organization.

Again this was not a peculiarity of the DLS. As Dunsire (1978) implied there is some degree of interconnectedness between the stages of development of a phenomenon like innovation and organizational structure. Moreover, although they were not referring particularly to innovation, March and Simon (1958) also captured this point when they said:

> In organizations there generally is a considerable degree of parallelism between the hierarchical relations among members of the organization and the hierarchical relations among program elements. That is to say, the programs of members of higher levels of the organization have as their main output the modification or initiation of programs for individuals at lower levels (March and Simon, 1958: 150)

Given the interconnectedness of the sub-processes of innovation with organizational structure, accounting for the similarities across the process models in this context amounts to accounting for commonalities across organizational structures. But the reverse is also true. That is to say, the processes of innovations undertaken by organizations should be similar to

the extent that the structural variables of those organizations
behave in rather the same manner in relation to other
organizational and/or contextual variables. In view of the
findings that substantiate the existence of such structural
similarities, commonalities should also be found across the
processes of innovations.

Comparative organizational studies indicate that there are some
empirical regularities within large classes of organizations.
Bivariate regularities have been found between organizational
size and formalization on the one hand, and between
interorganizational dependence and centralization on the other.
The relatively constant relationships between these variables
observed in several different national contexts; namely,
Britain, Germany, Japan, Poland, Egypt, and India support the
hypothesis that "relationships between structural charac-
teristics of work organizations and variables of organizational
context will be stable across societies" (Hickson et al.,
1979:39). Several of these studies have been collected and
edited by Hickson and McMillan (1981)

Following these studies, Conaty et al. (1983) undertook to
compare 65 heterogeneous US organizations with 64 such
institutions in Prerevolutionary Iran. Having evaluated the
effect of size, automation, etc. on some of the structural
variables, e.g. formalization, they found the relationships
between quite a few of the variables in the US organizations
were remarkably comparable to the relationships between the

same variables in the Iranian institutions. The importation of Western principles of organization design upon which the Iranian institutions have been modelled was one of the reasons they gave for the similarity of the causal estimates they had arrived at.

Conaty et al.'s conclusion is true of the post-revolutionary Iranian organizations as well. In this author's personal experience there is sufficient evidence to indicate that organizations have continued to be formed and/or run, though with some modifications, on the bases of the above-mentioned principles after the Revolution. Pursuing this matter at any length is beyond the scope of this work. However, it is necessary to suggest at least one reason why those principles have been retained. This is that a great number of the previous staff, e.g. in personnel and accounting, are still there and many of them had been indoctrinated with those principles. Ironically, a limited number of them are Western educated or may know where those principles have originated from. This is probably sufficient to explain why the former structural characteristics of the organizations in question have not changed drastically even though the necessity for such a change has headed the agenda since the Revolution.

The above discussion indicates that it should not be surprising if the overt aspects of innovation models are rather similar in heterogeneous organizations even across nations. However, the following will make the point clearer. It was noted above that

size and formalization have shown relatively consistant relationships across organizations. Hence the larger the organization, the more formalized it has been. This indicates that in almost all large conventionally designed organizations, diffusion of any unprecedented matter, e.g an innovation, can be an outstanding event. Hence one would expect to see intraorganizational diffusion as one of the stages/sub-processes of innovation in the adopting organizations. More-over, vertical differentiation, i.e. number of hierarchical levels, which may be greater in large sized organizations, can be expected to make the redefinition of the innovation so significant a matter that it would be reasonable to treat such redefinition as one of the stages/sub-processes of the innovation in all those organizations.

Thus far, we have focused mainly on three of the process models presented above. We have not yet addressed the fourth model, i.e. Beyer and Trice's (1982), which, unlike the others, is solely a hypothetical one and is related to research result utilization or, roughly speaking, to "soft" innovation. By considering the similarities between this model and the other three, which were not related merely to soft innovations, we should see whether or not there is a justification for postulating those commonalities.

By looking at attempts at innovation, one should not be surprised to find that the real antecedents of innovations come into being in the latest stages of their processes. Remember,

even a prototype of an innovation can not come into being before a relevant process, i.e. the process whereby the prototype is realized, has completed its course. If the innovation has a physical manifestation and the user system is only to adapt it, it is hard to believe it will do so automatically (see 2.1.). Consideration of the adaptability of the innovation, its resource requirements, its possible consequences, etc. will, in all likelihood, preoccupy the user and generate an innovation process. Based on this premise, it is fair to conclude that (a) the eventual manifestation of an innovation, be it an overt change in the participants' behaviour, a structural change, a physical artifact, or whatever, is an after-the-fact phenomenon and (b) innovation is not driven by what it will be in reality but by what the innovators wish it to be. Accordingly, the innovation process must be precipitated by something hidden, something that we may call its essence. But what is the essence?

Innovation, irrespective of its antecedent, namely social change, product, service, is essentially some knowledge, thoughts, notions, assumptions, cognitization, aspirations, goals, something intangible, or, in short, a mental construct. The innovation process is thus the process of pragmatization of knowledge, thoughts, assumptions, etc. (cf. Dunsire, 1978:123), as was implied in our discussion of assumption-making and assumption verification above.

The abstract nature of innovation has also been emphasized by

some other authors. For example, summarizing several studies of innovation carried out in the EEC countries and concluding both from them as well as from other studies, Piatier (1984:34) noted that "... it is the idea of innovation rather than the innovation itself which created a feedback or a loop in the process." Moreover, as Andrews and Greenfield (1966:81) said two decades ago; "Innovation ... is not so much the adoption of objects by individuals as it is the acceptance of ideas by an organization."

It is not only the above observations that support the view that innovation is abstract in essence; some definitions of technology do so as well. Although there seems to have been a great tendency to equate a technical innovation with a physical artifact, there are some indications to suggest that this is not always tenable. Leavitt's (1965) reference to technology as "direct problem-solving interventions" and Perrow's (1967) view of technology as "work done in organizations" imply that technology does not mean just physical artifacts.

Given that innovation is driven by its essence, which is not tangible, we should not be surprised if the processes of innovations, irrespective of their eventual manifestations, were to display some degree of similarity.

Saying that all innovations are conceptual in essence should not imply that all innovations require the same physical activities for their implementation, or that such things may

meet with equal resistance or receive equal welcome. Indeed, the requirements of innovations and the kind of expected or unexpected resistance shown to them does not detract from their essential abstractness. They may only indicate that different concepts are involved, but these are still concepts. To make the point clearer, let us liken different innovations to different theories in various fields of knowledge. A theory in a field of geography is certainly different from one in physics in that each is related to different phenomona and in that in testing each, one may require different research instruments. They are, however, exactly the same in that they are theories.

Having discussed the similarities of the models and some of their possible sources, we now turn to their dissimilarities. It should be remembered that we are concerned with a comparison among the overt aspects of these because the non-DLS models, like almost all other such models, do not present any covert properties.

One dissimilarity among the models stems from the reality of organization. It was indicated that an innovation process is interconnected with organizational structure. It was also pointed out that there is evidence to substantiate the existence of some similarities in the behaviour of structural variables of heterogeneous, or dissimilar, organizations even across the private and public sectors. However, it is inconceivable that one would find two organizations to be exactly alike, even if only structurally. It is aptly noted

that "... the assumption that [even] common types of organizations are essentially similar is neither logically nor empirically valid." [(Gillespie and Mileti, 1981: 376). emphasis added]. Not only do the structural differences lead to differences in those elements of the process that are directly related to the structure, so too do the differences among other factors, e.g. contextual factors, that also bear on the process.

Two other sources of dissimilarites among the models are related to the views of the innovation analysts. First, analysts frequently use different terminologies to define the same stage/sub-process. For example, what is "matching" in one model is "formulation" in another, as was noted above. Second, the models normally reflect the authors' views of innovation and not necessarily the reality of it. This is particularly true of the hypothetical models such as the research utilization paradigm illustrated above. In these cases, the authors tend to include in their models what they wish the adoption unit did and sometimes what they assume it might do. But because wishes and assumptions, reflected in the models, are different, so too are the models.

To give just one example of these differences, let us pick up the "evaluation" stage in the research utilization model and see if it has a counterpart in the others. On the face of it, such a stage has a counterpart only in Clark's (1968) model. A closer look indicates that "evaluation" is buried in the other

stages of Rogers' (1983) model. Needless to say, "Redefining and Clarifying" are both elements of evaluation, unless these could be undertaken <u>without</u> evaluation. Evaluation, however, is only implicit in the DLS model. Each loop in the model is a feedback loop and indicates that the whole process was in fact an evaluation process, a process whereby the participants evaluated their assumptions against the reality of the Innovation as it emerged bit by bit.

These differences amongst the models lead one to a conclusion reflecting what Dunsire (1978) said about the possibility of developing an implementation process model. A process model, like beauty, is in the eye of the beholder.

To sum up, we looked at the process and structure of the DLS at the beginning. It was found that the tortuous and, in Dunsire's words, sine linear process of the DLS contained some sub-processes. These were recursive and one sub-process dropped out only when it was covered by a succeeding one, e.g. Small and Large scale Implementations. As such, the process unravelled incrementally along a high-generality/low specificity to a low generality/high specificity continuum.

The duplicative and generative aspects of the process were noted. The process was duplicated because the Innovation was to be undertaken by the units that, though identical organizationally, differed in their innovation handling capabilities. It was generative because its adaptation led to

the development of new rules and procedures. The DLS was called an <u>innovation</u> <u>set</u> in that it comprised several curricula, rules, procedures, schedules, etc. And because the process was duplicated, the use of the expression the "<u>processes</u>" of the "<u>innovation set</u>" was proposed.

The influence of the DLS process on the organizational formalization process, which led to goal displacement, was analysed. Attention was then shifted to the assumption-making and assumption-verification processes buried in the DLS process.

Finally, a distinction was drawn between overt aspects of the process (i.e. its inclusion of some sub-processes) and its covert aspects (i.e. its being tortuous, sine linear, having generative and duplicative characteristics, influencing the organizational structure, representing assumption-making and including assumption-making and assumption verification). The overt aspect of the model was compared with three other models. The reason for the comparison of the overt aspect of the DLS with the other models was that the latter, like almost all their counterparts, do not tell us about the covert aspects of innovation. A few similarities and dissimilarities among the models were singled out and some possible sources of those were identified.

CHAPTER FOURTEEN

The Impact of the Individuals

Mention of the influence of individuals on innovation confronts one with a question; which individual(s) is it whose behaviour(s) and characteristics may bear directly upon an innovation in an organization? Where the adopters of innovations are individuals, farmers, physicians, or a project champion (a person who may follow a new project through on his own in an organization), the answer is obvious. But in situations where the individuals involved are the members of a complex social system, it is almost impossible to single out a few who can influence any organizational processes, including an innovation process, directly and in a straight forward manner. Even if some individuals are identified and labelled as the elite, they can not be seen to be influencing everything in their own individual manner. The influence of any one individual is likely to be affected by, at least, that person's peers or other persons with whom he works.

If an organization happens to be run by autocrats, it might appear easy to pinpoint the individuals affecting an innovation. But even the autocrats may not have absolute power over everything. Dahl's (1958) "Critique of the Ruling Elite" illustrates the forces that constrain such power. Moreover, even if there are individuals with unrestrained power within collectivities, they may not exercise the same amount of power

throughout the process of an innovation. Once a decision is made concerning the adoption of an innovation, the powerful decision-makers are most likely to depend upon others to carry it out. Both the DLS case and Duncan (1976) indicate that the implementors of innovation are very likely to be different from the initial decision-makers.

Having said that it is difficult to locate one or two key individuals who may influence an organizational process directly and in a straightforward manner, it is not impossible for us to identify the persons who appeared to be at the forefront of the DLS. Although they, alone, did not appear to affect the innovation directly and were neither the innovators nor the so-called innovation champions, they stand out in having been more involved in its initiation and implementation. The persons to be discussed are the president, Modeeri, and Ameeni, the dean of the DL Faculty. We will consider the roles of a few other individuals in our discussion of "The Impact of the Groups". Hence these others will not be brought into the picture at this stage.

So far as possible, we will be concerned with the above-mentioned persons as individual members of the Organization. Leadership and its dimensions will be considered in our discussion of the impact of the Organizational culture and group behaviour. To analyse the influence of Modeeri and Ameeni we draw upon such individual variables as education, experience, rationality, intelligence, etc., covered in 6.2.

We will examine how they related to the Innovation.

Modeeri held an MBA from a Tehran based consulting and management development institution affiliated to a few of the reputable American universities, e.g., MIT, Pennsylvania, Harvard. Before he was appointed as the president, he had served in two other executive positions. He was praised mainly for the quality of his performance and for his high dedication. However, he was regarded as undependable because he tended not to stay in the same position for a predictable period of time. He seized almost any opportunity that promised better social and scientific advancement. The number of positions in which he had served in his several years of work was expressive of his volatility. Even then, he had gathered a lot of experience. Because managerial functions were the common denominator of most of his previous assignments, he had developed quite an insight into the nature of such functions in both the public and private sectors. Despite his experience, he sought the advice of whoever could help. The setting up of the Advisory Committee, two members of which were high calibre management advisors with whom he conferred on every important Organizational issue, illustrated the value he attached to consultation.

Although he had demonstrated that he was eager to do everything himself, he had learned, probably by virtue of his experience, that no initiative could be consummated within a collectivity unless the participants cooperated willingly. This, he

believed, could come about only by the participants' conviction as to the desirability and utility of the initiative. He also believed that the participants' conviction and cooperation could not be attained if the rationale behind the initiative was not fully appreciated by them. This belief had made him adopt a rather didactic style for which he was sometimes criticized by his aides.

He did not exhibit a high propensity for risk, so that unless he was certain that at least some of his colleagues favoured a change, he hardly ever embarked upon it on his own. Indeed, by praising his predecessor for his risk-taking quality, some members of the Advisory Committee tried to imply to him how interested they were to see him taking such great risks.

Although, except for his risk-aversive tendencies, several of Modeeri's characteristics were similar to those of innovators (see, Rogers and Shoemaker, 1971; also 6.2), not very many characteristics of the dean of the DL Faculty were. However, he appeared to have a high propensity for risk-taking. He was regarded as very aggressive as well. He was said to be rather wilful and able to get his way one way or the other. He held an M.Phil in pharmacology from one of the country's reputable universities. He did not come from a managerial background specifically and had served in an administrative position only for a short while. However, his willingness to learn had gained him some knowledge of organization and management theories. The way he tackled some organizational issues and

some of what he said, was indicative of such knowledge.

At the age of 31, he was very energetic and persevering. Once he committed himself to a job he did it with religious fervour. Nonetheless, he only involved the relevant people in the job if he had to. When criticized for such behaviour, he always reasoned that the job demanded so much from him alone that he had no time to discuss the requirements of the job even with those who would eventually be involved. With these characteristics of the two individuals in mind, we will look at how and the extent to which they influenced the Innovation processes.

Helped by his previous experience, Modeeri had a major role in setting a comprehensive agenda for the University. The agenda called for the formulation of an organizational strategy within a particular framework. The attempts to formulate such a strategy led the Advisory Committee to locate both problems and issues which had been unnoticed previously and those issues that had always been taken for granted. It was in the course of reviewing those problems and issues that the need for a new DLS was realized, it was conceived, and formulated.

Apart from the role he played in the sub-process of Formulating the Programme, Modeeri had a major part in having it legitimized. His contacts with the Policy-makers and his credibility with them proved a valuable asset in doing that job.

Up to the Legitimation and even in the Strategy Formulation Sub-process, the Programme did not involve much risk. Nobody was afraid of spelling out, receiving, and discussing ideas or notions. Hence the requirements of the Initiation Phase were more or less compatible with Modeeri's occupational and academic background as well as his personality traits. But in the Implementation Phase, a potential implementor needed to have a high propensity for risk given the scarcity of resources and absence of the Policy-makers' sustained support for the Programme. Ameeni, to whom the task was entrusted, had that quality. Hence he undertook to implement the DLS, though on a limited scale at first.

Despite his risk-taking quality, the scant effort Ameeni put into involving all the participants who, it was expected, would be eventually involved in the implementation of the Programme was a threat to the undertaking. Indeed, had it not been for certain considerations on the part of those participants and certain contextual forces, Ameeni's risk-taking quality might have not helped the progress of the Programme very much. Whereas Ameeni's willingness to take risks, in the face of resource scarcity and internal resistance to the undertaking, was relatively important for the implementation, more important were his strong sense of commitment, endurance and aggressiveness.

When the internal forces threatened the progress of the Pro-

gramme, a lot depended on his perseverance in overcoming the obstacles to push it forward. As a matter of fact, that was the manner in which he undertook the task, rendering the preliminary implementation of the Programme possible and paving the way for its further progress.

All in all, individual characteristics, socioeconomic, personality, and communication behaviour appeared to have some influence on the DLS process. However, these variables seemed not to have the same influence on all of the sub-processes involved. For example, whereas experience and academic background appeared to have more influence on the Programme in its Initiation Phase, risk-taking, and endurance qualities seemed to have a stronger impact on the Implementation Phase. Studies by Myers and Marquis (1969) and by others (for a review, see Rogers and Shoemaker, 1971) also indicate that education, experience, and a "favourable attitude towards risk-taking" correlate with innovation. These studies, however, do not demonstrate whether those variables affect different stages or phases of innovation differentially.

Having pointed to the impact of such variables, one may want to know just how significant they are in comparison with organizational structural attributes and contextual factors. Although the degree of influence of individual variables may differ relative to the degree of impact of other factors and innovation attributes, the individual factors did not seem any more significant than other variables in this case. At times,

when an individual's characteristics appear to have influenced the process distinctively, a closer look into the situation indicates that that influence was not so straight forward. For example, in discussing the impact of Ameeni's risk-taking quality, it was implied that the University was under a lot of outside pressure to implement the Innovation fully. It was also mentioned that the DL Faculty functioned relatively independently for sometime during which it became identified with Distance Learning because of its direct involvement in the DL students' issues and enquiries. Therefore, it is not quite clear to what extent Ameeni's risk-taking quality was responsible for his undertaking the implementation of the DLS. The contextual pressures could have forced him to undertake the implementation of the DLS.

In the case of Modeeri, the setting in which he operated should also be considered. If the duration of his service is divided into two periods; early reactivation and sustained activation of the University, it is in the first period in which the initiation of the Programme was undertaken, and in which he stands out as influencing the Organization. In the second period, neither he nor the other Organizational participants appeared to be affecting the innovation in a clearly distinguishable manner. Once the University was settled down as a whole and the units were well-established, several forces emerged to influence the Organizational processes, thereby obscuring the possible impacts of the individuals, as was indicated in case of Ameeni above.

Different reasons can be offered to explain this. The situation can be explained by looking at it from Kilmann's (1985) cultural perspective. That is, to put it simply, once a certain way of doing things is institutionalized, that way, rather than individuals, begins to govern the organization. This type of consideration seems to have prompted Perrow (1970) to prefer sociological or systemic analyses of organizations to leadership approaches. Moreover, the situation can be explained by considering the influence of the environment on the Organization.

On the one hand, according to Normann (1971), a product defines the kind of relationship between an organization and its environment. Hence if an organization changes its product, it may then change its kind of relationship with its context. On the other hand, Graham et al.'s (1987) attempt at establishing patterns of influence on strategic decisions in organizations indicated that customers and client-related units bring a decisive influence to bear on such decisions. Taking Normann's and Graham et al.'s observations as our premises, we can explain, partly, the reason for the emergence of the forces that obscured the individuals' impacts.

As the case indicated, the University had almost been written off, so that nothing much was expected from it. One of the five universities, which was in a similar situation to Ensani, had been dissolved, with its parts merging with other

universities. No bright prospects were seen for the other four universities, including Ensani, on the horizon either. Therefore, the contextual forces had not had much active influence on the University before it changed its relationship with its environment. However, the relative stabilization of the University combined with the introduction of the CS and DLS to change Ensani's relationship with its environment, thereby placing the client or student-related units in a powerful position (cf. Hickson et al., 1971). Consequently, the external forces, the clients or the students and their supporters, began to influence the Organizational processes through the units directly responsible for the implementation of the two innovations. That influence process could therefore obscure the genuine influence of the individuals either in those units or in the others.

Indicating that other factors matter in an analysis of innovation should not imply that individual characteristics are unimportant. They may make a difference predominantly if, leaving aside individuals as adoption units, (a) one is concerned only with an innovation champion, albeit in a complex organization; (b) individual variables are studied in relation to higher individuals, not just as individuals, but as the leading participants influencing an innovation decision or the whole setting of an innovation rather than its individual subprocesses. Indeed, as was noted in the analysis of the processes of the DLS above, an innovation process can be far more complex and pervasive than can be distinctively affected by

any one individual person alone.

Having suggested when individuals can make a difference, it should be pointed out that it might not be all that easy to attribute the particular influence of one individual to one of his characteristics rather than another. In other words, it may not be easy to say whether, for example, an individual's experience or his academic background is resposible for a particular impact on the innovation process.

As we may recall, when the vice-presidents insisted on the integration of the DL Faculty into the University by trying to make the relevant incumbents observe all the rules and regulations that were followed by the other faculties, Modeeri rejected this. He justified his rejection by saying that tight integration of that faculty into the system would on the one hand transfer some of the rigidity of the system to that unit and might on the other hand cause the problems of that faculty to permeate through the whole system. Modeeri had a graduate degree in management and his argument, it is true, was compatible with some organization theorists' (e.g. Weick, 1976), concept of loose and tight coupling. This points, among other things, to the possibility of a dysfunctionality of tight coupling of organizational parts. Hence Modeeri's argument may be taken to justify the claim that academic background can, although indirectly, streamline an innovation process. Is that claim right, though? It is difficult to decide whether Modeeri's argument resulted from his academic knowledge or his

past experience. Clear evidence that an experienced practitioner has covered a subject in his academic work does not mean that one can relate an act or a decision by that person to his prior intellectual analysis of the situation. Management practitioners rely for their definition of situations and for their decisions less on such analyses and more on their intuition and past experiences (Hofstede, 1980; Mclean et al., 1982; Angor, 1986).

Just as it may be difficult to distinguish among the influences of variables related to individuals' socioeconomic background, distinctions can not be easily made among the impacts of personality and other individual variables, such as those listed in Ch. 6. It may not be clear whether, for example, an individual's outcome stems from his social participation or cosmopolitan-ness, intelligence or rationality. As far as the latter variables are concerned, intelligence may, at least, account for rationalized, if not truly rational, behaviour. To the extent that an administrator is intelligent, he may be more able to give his acts a rational appearance ex post facto, even if he is not so rational as he may appear to be by nature. Given our analysis of the DLS processes, which indicated that innovation is an after-the-fact phenomenon, it is clear that an innovation process does indeed leave much room for rationalizations.

Turning to the reason Modeeri was offering as the justification for not integrating the DL Faculty into the system tightly, one

may elicit both the variables, intelligence and rationality, as underlying such a reasoning. First, he might have been defining the situation rationally simply because he was rational. Second, being committed to the innovation and struggling to push it forward by giving the people implementing it all the freedom of action they needed to do so, he was rationalizing his decision in an intelligent manner. Although his intelligence was not measured by any objective means, i.e. an IQ test, from what his colleagues said about his conduct and decisions, one could conclude that he was intelligent enough to be capable of such rationalizations. Hence it can be concluded that separating intelligence from rationality, if they can be separable at all, and taking each to account for his decision to retain the DL Faculty relatively detached from the system, will be misleading. By the same token, it is arguable whether the influence of such variables on an innovation can be distinguished at all.

To the extent that the confluence of individual variables on a decision, be it adoption, implementation, routinization, or whatever, is grasped, the difficulty of distinguishing among the influence of those variables can be appreciated. To the extent that such a difficulty is appreciated, an analyst should be on his guard not to confound the influence of one variable with that of another.

To sum up, it was indicated that if we cannot identify any innovation champions, it is difficult to identify any

organizational actors who bear on an innovation distinctively and directly. It was suggested that if the characteristics of leading participants (as leaders not just as individuals) are regarded as bearing on an overall innovation situation and climate, rather than any <u>specific</u> sub-process of innovation (unless one is interested only in adoption decision sub-process), then more insightful results may be obtained.

The influence of the individuals, who were considered in this Chapter, could not be sharply separated from the effects of their hierarchical positions. Treated loosely as individual actors, rather than the key office holders, it was pointed out that despite the difficulties of relating individual variables to the Innovation process, there was some weak evidence to suggest that academic background and experience were relatively important in the Initiation Phase. However, risk-taking and perseverance seemed to be a requirement in the Implementation Phase. Ideally, leading participants in a focal innovation have all these qualities together.

Having said that individuals, as the leading participants, can make a difference, particularly in affecting the general climate of innovation, attention was drawn to the difficulty of associating a particular influence on an innovation with certain individual variables. It was implied that care needs to be taken not to confuse the influence of one variable with another. Needless to say, lack of adequate attention to such complexities has been a source of inconsistency across several

innovation studies (Downs and Mohr, 1976).

CHAPTER FIFTEEN

The Impact of the Dominant Organizational Culture

In the overview of the determinants of innovation in Part 1, the possible impact of organizational culture on innovation was discussed. A few definitions, some types of cultures, and some elements of culture were very briefly reviewed. It is necessary, however, to devote a little more space to some indicators of culture so that we may have a better idea what these are whose impact on the innovation we are analysing. Before we proceed, it should be emphasized that we will be dealing with the dominant organizational culture, not micro cultures that may characterize the organizational units and sub-units.

It has been suggested (Pettigrew, 1979; Schein, 1985) that the organizational founder is a major element in creating its culture. Some authors' taxonomies of organizational culture seem to have been based on leadership styles although those authors have not always been explicit about the basis of their taxonomies. For example, Harrison's (1972) four postulated cultures, power, task, role, and person, seem to have been based on the Tannenbaum-Schmidt (1958) power continuum. Although Sethia and Glinow's (1985) four types of cultures are related to the organizational reward system, they have certainly much in common with those of Harrison's. Hence they can be related to leadership styles as well.

Moreover, it appears that some of the earlier of the above studies have inspired some later authors (e.g. Mitroff, 1983) to analyse the influence of personality type on organizational structure. Besides, strategic types, i.e. defender, prospector, analyser, and reactor, advanced by Miles and Snow (1978), also appear to have been based on personality types or on leadership styles.

In view of the above, attention to a leader's influence on innovation seems justified. He has a part in creating the organizational culture that affects a focal innovation one way or another. However, it is also suggested that "culture ... is a learned product of group experience and is therefore to be found where there is a definable group with a significant history" (Schein, 1985:7). This assertion does not, of course, rule out a study of the influence of leaders in a study of organizational culture; rather it suggests studying the element of leadership within the context of group processes, which normally include the element of leadership.

Considering the organizational culture a very complex pheno-menon, Schein (1985) also suggests focussing on different aspects of an organization in identifying its culture. According to him, apart from the organizational history, its structure as well as its formal information and control system, particularly if this is attended to by the key managers, reflects the culture.

Some definitions of the organizational formal information and control system support Schein's assertion that such a system is an artifact of the culture. If culture is an "amalgam of beliefs, ideology, language, ritual,... " (Pettigrew, 1979), then Selznick's (1957) conceptualization of organizational structure as the "embodiment of values" is a case in point. Walsh and Dewar's (1987: 219) definition of formalization also suggests that the organizational sytem may indeed be an artifact of the culture given Pettigrew's definition of the concept. They referred to formalization:

> as the process through which the desired behavioral standards of one actor (or set of actors) for the other(s) become reified in such a way that they are readily remembered and understood overtime without the need for the first actor(s) to repeat them, or for the other even to know that the first actors originated them."

"the desired behavioral standards" obviously relate to beliefs, values, etc. and thus implies that formalization is a cultural artifact.

By relating the organizational culture to beliefs, values, etc. the influence of the environment on the culture and structure is not ignored. However, unless a certain structure and formal system is imposed on an organization by some regulatory factors, it is unlikely that the organizational milieu can shape its culture or system directly. Nevertheless, environments normally play a part in shaping the participants' values

and beliefs. The participants may also enact their environment (Weick, 1979) and internalize it (Graves,1986), so that the impact of the context is reflected in the participants beliefs, etc. As such the environment influences the culture, structure, and system insofar as its influences the participants.

Since the leading organizational participants are normally in a better position to change the formal information and control system, a succession of those persons may lead to a change in the organizational culture (cf. Dyer, 1985). Gouldner's (1954) study of the gypsum mine is a classic example of a cultural change as a result of managerial succession.

Moreover, because collective entities may be in the process of on-going organizing (Weick,1979), they may have different cultures as they develop. Hence a different culture may emerge after each organizational "revolution" (Greiner, 1972). Quinn and Cameron's (1983) analysis of several life cycle studies supports this claim. Their summary of these studies indicates that there may be four stages in the process of development of an organization. They called those stages entrepreneurial, collectivity, control, and elaboration of structure. These stages, according to Quinn and Cameron, may develop in the foregoing sequence. Given the characteristics attributed to the stages, they seem to have much in common with Harrison's cultures.

Having identified some indicators of organizational culture, leader, group, history, structure, formal information and control system, and a source of cutural change, managerial succession and/or the development of organization, we will look at their influence on the innovation.

Several taxonomies of organizational culture are similar to Harrison's (1972) cultures, as noted above. Hence his cultures will be used as a general framework for this analysis. Although group processes are elements of culture, as was noted above, they will be treated separately.

Three cultures, power, task, and role, dominated the University in the foregoing sequence. The power culture characterized the University when the merger activities got under way. It is beyond the scope of this study to tackle the possible causes of such a culture. However, two of the major sources of that culture will be briefly discussed in that they were responsible for the failure to realize the need for a new educational system.

In the case, the participants of the eleven institutions, that were merged to form Ensani, hardly liked the mergers. The fact that a good number, particularly of two of the larger merged institutions, engaged themselves in disruptive activities inclined the first group of administrators to resort to coercion to establish order. Whereas breaking such resistance through exertion of power was one of the reasons that gave rise

to a power culture, lack of any organizational structure, rules and procedures for doing things was another. In the absence of such regulatory mechanisms, the administrators seemed even more inclined to use power to streamline the activities. That state of affairs persisted because the first three presidents remained in office for a short while during which time they could have done little to put the situation right even if they had wanted to.

The power culture persisted and so did the conflicts. Those conflicts developed to such an extent that they finally embroiled the then administrative council in the last days of the third president's office. In that culture, hardly any order was established, nor could much time have been spent on planning activities, in the course of which the need for a solution to the DL students' problems might have been realized.

Undesirable as it might have been to the participants, the consequences of that culture appeared not so bad to Modeeri, the fourth president. Weary of the constant conflicts, Ensani members looked for almost anybody that could get them out of the situation they had endured for about two years. Although some resistance was still there and conflicts were not yet past totally, the stage was reasonably set for some free-wheeling.

Modeeri believed that first he had to consolidate the constituent parts of the University and reconcile the conflicting members if he were to concentrate on other tasks

without distraction later. To accomplish those immediate objectives, he tried to bring the members together through those participants who were known to be well liked and respected by the rest of the members. Some of those people, who enjoyed the qualities Modeeri wanted the key office holders to have, were appointed to the unoccupied positions.

The setting up of the Advisory Committee and allowing for the direct and indirect participation of the actors in the decision-making processes helped Modeeri to achieve his initial objectives to a great extent. Not only was Ensani consolidated, but conflicts were reduced subtantially. However, the organizational structure was still not well-defined and there were only a few written rules and procedure to follow. Nevertheless, the leading participants, both at the same and at different levels of the hierarchy, coordinated their activities through interpersonal communication. This, which was mainly made possible by two long and friendly meetings a week, allowed the routine, and some relatively nonroutine, activities to carry on smoothly without any need for coercion or many rules and procedures. As a result, the concerted efforts of both the Advisory Committee and the Administrative Council turned the University around smoothly; not only were Modeeri's initial objectives achieved, but a task culture superseded the power culture as well.

Had it not been for the _esprit_ _de_ _corps_ in the higher adminis-trators and the flexibility in the system, which characterized

such a culture, no need for any innovation might have ever been felt nor such a thing initiated. Indeed, it was in such a climate that a lot of changes occurred in the University and, most important of all, the DLS was conceived, formulated, adopted and was even legitimized.

While the Programme was in the process of initiation, the new Conventional System had reached its implementation stage. For the adaptation of the CS, several new academically oriented rules and procedures, e.g. concerning the registration and also omission of a course subject, had to be enforced. The interpretation of these, which had been drawn up in the external Policy-makers' establishments, was an added excuse for the Advisory Committee and the Administrative Council to keep working together closely. The high ranking administrators wanted to make good sense of the foregoing rules, etc., before they could efficiently oversee the harmonious execution of these across the University. It was thought that once those rules and procedures were internalized, they could spend more time on the issues surrounding the DLS.

However, no sooner had those regulatory mechanisms been put into effect than a few members of the Committee and the Council, who had always emphasized the necessity for such things, found a better opportunity to emphasize regulation by extensive rules covering all the Organizational activities. For a start, they tried to bring the unit that was more directly involved in dealing with the Programme, the DL

Faculty, under some stringent rules that were being developed.

Irrespective of those individuals' pressures, the University might not necessarily have become so highly rule-oriented as it did when some of the key office holders were replaced and Modeeri's resignation was revealed. The members of both the Committee and the Council were extremely used to coordinating their Organizational activities interpersonally. However, with the new members in office, formalization of the procedures were pursued vehemently.

The new deans of the CS faculties thought that there was hardly anything non-routine which would require their continuous personal attention. The new CS was already in the process of routinization, and so were some of the related administrative processes. Although the University still had to solve the problems associated with the student welfare programme and with the DLS, the deans did not feel that the strict observation of the procedures would hinder the solution of those problems. These views were shared by the new vice-president for student affairs in particular. Therefore, efforts were directed to defining the decision-making structure as clearly as possible, to be accompanied only by such rules and procedures that could sustain it. The emergence of such mechanisms marked the emergence of a role culture as well.

The new rules and procedures, like some of their predecessors, might not have been fully observed, had the atmosphere that had

dominated the initial Council persisted. However, in the absence of such a climate, they received a good deal of support. The president's resignation, although it was accepted after nearly a year, seemed to have only intensified the emphasis that was being placed on the observation of the rules and regulations. The higher administrators, particularly the vice-presidents, were led by one of their number to believe that having submitted his resignation, Modeeri had actually repudiated his responsibilities for both the activities and the outcomes of the University. Hence, to be safeguarded from any possible undesirable events, not only did they try to go by those rules and procedures themselves, but they emphasized the strict observation of these things by others as well.

Top administrators' tendency to resort to strategies that can protect their status, prestige, or their programme has been noted previously. Selznick (1949) referred to such strategies as "self-defensive behavior". He indicated that the leading administrators of the TV A coopted the influential community members in response to the threat that those members posed to the change that was being introduced. Gouldner (1954) regarded as a self-defensive strategy the manner in which the new manager of the gypsum mine, which he was studying, tried to cope with the work environment unfamilair to him. In order to be in control and to respond to the top management's demand for increased accountability, he activated the dormant rules and made every effort to ensure these were followed persistently. An empirical study carried out by University of Tehran (1964)

also implied that the administrators studied sometimes made use of rules and regulations for protecting themselves.

The manner in which the new member of the Council behaved was very much like the way the new manager in Gouldner's mine behaved. However, when our new-comer won the support of his counterparts, they did not only behave defensively, they bahaved aggressively as well (see Ch.16).

The VPs' strategy, as indicated above, led to a role culture, or, except for one difference, to a system very similar to a mechanistic system (Burns and Stalker, 1961). As these authors indicate, an assumption underlying a mechanistic system is that there is an omniscient manager at the top of the organization. In sharp contrast to this assumption, a belief underlying our role culture or mechanistic system was that the man at the top was neither omniscient nor omnipotent, but a nominal manager with little authority,because he had submitted his resignation. Indeed, one of the reasons why the VPs, in particular, overemphasized the rules, regulations, and procedures was that they expected these to perform the leader's function of coordination activities.

The accent that was placed on impersonal means of coordinating the Organizational activities helped to smooth the implementation of the Conventional System to some extent. Some efficiency was also achieved, which enabled the University to keep going in the face of retrenchment. Some resources were

drawn out of some of the sub-units and were allocated to those that suffered from a shortage of these. Despite the relatively desirable effects of the strict rules and the procedures, they adversely affected not only the progress of the DLS but also the development of the University as a whole.

The use of rules in organizations need not always impact on a process, be it an innovation or something else, adversely. They may not be used as a replacement for the interpersonal way of managing organizations. Also the nature of the organization may justify its being rule oriented. Whereas there is no evidence to suggest rule-oriention was compatible with Ensani's nature, impersonal regulatory mechanisms were being put in control. Hence the more the rules were emphasized, the less effective the Organization seemed to become in producing the outcomes for which it was there. As such goal displacement resulted, as was noted in Ch.13.

The rigidity that thus developed proved to be an obstacle on the way to creating a climate for scholarly work when the need for it was felt more than ever before. It may be recalled that as the CS was losing its novelty in the process of being fully routinized, the academic staff were being frustrated in their expectations of doing more research. The academic freedom they sought for that type of work was bound by unyielding rules. The resources they needed could only be provided after several committees had supported the need for those. The process of gaining approval for the requirements of research was so

lengthy that the academic staff were totally dissuaded from making a research proposal. Indeed, from Tichy's (1981, 1983) perspective, a "technical problem cycle" had thus been triggered. Although rule emphasis had helped to streamline the implementation of the CS, it had created a deficiency in the Organization's formal information and control system, a technical problem that had to be resolved if the Organization was to withstand ossification (Downs, 1967).

If the influence of the role culture on the Conventional System was bad in the long run, its effect was worse on the DLS even in the short run. Although the research activities could with difficuly advance in this culture, the implementation of the Programme might be brought to a halt completely. Unlike the CS in its implementation sub-process, the DLS was not fully developed to be a complete "innovation set" within the same sub-process. It was still lacking in some components, e.g. a few curricula, some adaptation procedures. It needed a lot of consultation among the higher managers on the one hand and legitimation by the Policy-makers on the other. Both the administrators' effective consultation and the others' sustained approval of the Programme would be next to impossible or, at least, a very lengthy process, if such acts were to be done through bureaucratic channels. Therefore, it is reasonable to believe that had it not been for the external pressures and relative exclusion of the DL Faculty from the rigid system, the implementation of the Programme might have never been attempted.

In view of this state of affairs it was not surprising to see most of the participants trying to evade even their routine jobs. In order not to risk doing something against the rules, the members seemed to prefer, if possible, to do nothing at all. In the meantime, in this climate of inaction, gossip, backbiting and even backstabbing became routine, so that Ensani was even more paralysed, a circumstance that hardly changed before a new administrative council took it over.

To sum up, In the discussion of the influence of the Organizational cultures, it was indicated that as it developed, Ensani was characterized by three cultures. In the earlier years of its establishment, a power culture dominated the University. In the absence of rules and procedures, the initial members of the administrative council tried to consolidate and control the University by coercion. However, they achieved little success in either fulfilling that objective or in checking the resistance that was shown against it. Accordingly, the administration remained mostly involved in dealing with conflicts, thereby finding little time to concentrate on looking forward and planning, whereby a need for an innovation might have been felt and initiated. There was no need to discuss this culture further because the period when it dominated the University was beyond the scope of this study.

Attention then shifted to the other two cultures. It was illustrated that whereas the task culture contributed to the

conception, formulation, adoption, and legitimation of the DLS, the role culture helped to facilitate the implementation of the CS. The CS contained almost all of the things such systems may require in order to be implemented, i.e. it was more developed in detail, much better resourced, and far more supported than the DLS. Having such qualities, the CS can be justifiably regarded as being in its internalization sub-process when it was in fact being implemented. As such, a role culture that could help to stabilize the system turned out to be effective. Even then, the role culture had an adverse effect on the sustained enhancement of the CS after it had been fairly well routinized.

However, the DLS still needed some components to become a full "set" and demanded a continual marshalling of organizational resources for its implementation. Therefore, a very mild rule-oriented task culture would have been more responsive to the requirements of its implementation. Indeed, such a climate had prevailed in the University before it gave way to a role culture when the DLS was being implemented.

Finally, in the discussion of the latter cultures, it was implied that whereas the task culture was characterized by a spirit of camaraderie, interpersonal communication, consultation, cooperation, and organizational flexibility, the role culture was distinguished by a lack of enthusiasm, conflicts, lack of consultation and impersonal communication, self-seeking and organizational rigidity.

CHAPTER SIXTEEN

The Impact of the Groups

There is normally a dominant group behind an organization's dominant culture (Schein, 1985). Other groups can be associated with micro cultures, which may be dominant in the organizational units or sub-units. Because we are concerned mainly with the cultures that prevailed during the time when the Innovation proceeded from initiation to the completion of its implementation phase, we will look at the groups that were dominant in that period.

Although it may appear that three groups, the initial Administrative Council with six members, the Advisory Committee, and the second Administrative Council with five members, were dominant in that period, we will treat them just as two. The first two groups dominated in the Initiation and early Implementation phases of the DLS. However, because the Council members were the members of the Committee as well and the Committee, in effect, ran the University, we will refer to the Advisory Committee as the dominant group in the above period.

In the later Implementation Phase, the Advisory Committee had been dissolved and the second Council emerged as the dominant Organizational group. This Council was a little different from what it was when it had run the University jointly with the

Advisory Committee. One of its members, the VP for student affairs, had been replaced and it had lost one of the two student members. Bearing in mind the above distinction between the two dominant groups (the Advisory Committee, including the initial members of the Council, and the Council which had had a replaced member and had lost another), we will see how they affected the Innovation process.

Because the processes of the two groups have been described in the course of the case study (see particulary 11.1, 11.4), they will be reviewed only briefly in the analysis of their impact on the Innovation. The framework set forth in the discussion of group processes in 6.5 above will be used to view the influence of the groups. We will focus mainly on, cohesiveness, communcation pattern, deviance, risk-taking, and leadership.

As the case indicated, the Advisory Committee was highly cohesive and depended almost entirely on the members' interpersonal relationships in solving problems and in coordination. The members consulted with the chair of the Committee, Modeeri, individually about the issues related to each and all communicated with one another freely and unreservedly for the coordination of their activities. This pattern of communication only enhanced the group's cohesiveness and thus rendered every member indispensible to the group.

The qualities displayed by the Committee were certainly

important factors in the conception, development and relative-ly smooth adoption of the Programme. They were also decisive in assisting the group to have the Programme legitimized. Because there were no hard feelings or serious disruptive disagreements among the members, they could join in efforts to win the Policy-makers' approval for the DLS and could set the stage for the implementation of both the CS and the DLS. Perhaps the most important effect of this group was the enhancement of the members' tolerance threshold in coping with risk. Hence, when the University was pressed to launch the Programme, the members demonstrated their preparedness to do so although they realized that the undertaking was quite risky in view of the scarcity of resources. Not only that, but the members could easily cope with the uncertainty surrounding the University.

However effective these characteristics of the group in the Innovation situation, they seemed to have some disadvantages as well. These disadvantages, however, were barely comparable, either in substance or in extent, to the groupthink symptoms enumerated by Janis (1972) and by some others. Our group was neither extremely cohesive nor enjoyed the kind of leadership which, according to Janis, can lead to such symptoms.

The first disadvantage was that each member appeared to see himself and others as embodying the different organs of the same body. Consequently, the absence of anyone of them could render the group very uncomfortable, if not paralysed. Indeed,

even postponement by the group of urgent and important decisions in some of the Committee meetings was due to the absence of just one or two of the members.

The second disadvantage was that if one of the members, particulary one of those who may be called opinion leaders, did not like something, a few others tended to follow, pushing the rest to do the same for no good reasons at all. To cite an example from the case, when one of those members expressed some reservations about formulating a strategy for the implementation of the Programme, the rest, except for two, followed and thus suspended that work until some developments induced them to embark on it again.

The third disadvantage was that to the extent that the members were confined within their integrated group, their communication with the rest of the Organizational actors became limited. This unconscious and unwanted communication breakdown between the Committee members and the Centre directors as well as a few other DLS-related participants was a major barrier to the smooth Intra-organizational Diffusion of the Programme.

Despite the above, the advantages of the Committee's characteristics appeared to have outweighed its disadvantages in the Innovation situation because the Programme was kept going rather smoothly. Nevertheless, if the group's cohesiveness and its all-channel communication network seemed effective, those

alone could not account for the Programme's getting to its Implementation Phase. Apart from other forces that were significant in keeping the DLS in motion, the group's leadership processes were certainly important as well. We will turn to some of the other factors later but will carry on by paying some attention to the leadership of the group.

In discussing group leadership in 6.5.7, this was defined as "a process of legitimate influence rather than a quality of a person" (Grimes, 1978). Based on this definition, it was indicated that legitimate influence may relate to the dimensions of leadership rather than just the quality of a person, an observation that justified treatment of leadership separately from the individual charateristics of innovators. It was then asserted that in a focal group, more than one member may fit in a role commensurate to one or another of those dimensions. The dimensions illustrated were task, task ability (ability to deal with problems), and likeability (ability to deal with emotive issues). The members associated with task abilitiy and likeability were called task specialist and maintenance/socio-emotional specialist respectively.

Ideally, the Committee would have one or two members with such specializations, and it so happened that it did. Almost all the members cooperated in formulating the task or the Programme; they had therefore, at least, one specific task to perform together. It was then mostly two of them who translated it and other ideas into action plans. Mosheeri, one of the faculty

deans, was one of the two persons, and Modeeri was the other. However, it was another member, Vahedi, who was especially effective in reconciling the members when they disagreed on certain aspects of the job. For example, when the members of the sub-committee, responsible for the initial formulation of the Programme, diverged even on how to work together, it was he who reconciled them.

The role of this socioemotional specialist will be better appreciated when it is viewed in conjunction with the president's orientation. As was indicated above, Modeeri was mostly concerned with such organizational tasks that he regarded as major at one time, tending not to pay enough attention to the issues he regarded only as peripheral at that time. Unless the task he saw as worthy of attention in a particular time concerned specifically with the human system of the organization, he tended to take lightly the affective issues that were built around even those tasks to which he was so attentive. It has been demonstrated (Trist and Bamforth, 1951; Damanpour and Evan, 1984) that change or innovation will suffer if the impersonal technicalities of change or technical innovations are given supremacy over their human aspects. Accordingly, if the Committee remained relatively conflict free and managed to complete the Initiation Phase of the Programme in the face of the unfavourable events and problems, it was mostly because of that socioemotional specialist and some help that he received from his counterpart, Mosheeri, who attended to the human side of the Innovation.

Although the Committee was effective in the Initiation Phase of the Programme, it never survived long enough to demonstrate its impact on its Implementation Phase. For the reasons mentioned in the case, some of the members of the Committee resigned, to be replaced by new individuals. As such, the Administrative Council alone emerged as the dominant organizational group. Given the characteristics of the collectivity of the members of this Council, we only loosely refer to it as a group.

Having delegated a few of the defunct Committee's tasks to the other Organizational groups, the Administrative Council took over the remaining tasks that were carried out jointly by the previous Committee and the Council. Although only one of the five remaining members of this Council, the vice-president for student affairs, was new, this group did not display the same characteristics demonstrated by the Advisory Committee. Only a little while after this group had functioned on its own, it appeared neither to be cohesive, nor to enjoy the same communication pattern as the Advisory Committee had.

Although the new member of the Council, Borhani, was a member of the Organization, he had been away for two years. Therefore, he did not know exactly what was going on in the University. Understandably, he did not know how the Council ran the University previously either. Being new to the situation, he appeared to think that rules and procedures could protect him from the possible undesirable consequences of what

had been done before and of which he was not even aware. He also seemed to believe that impersonal regulatory mechanisms could streamline the Organizational processes. Therefore, he tended to advocate, more than the other members did, the rule of rules over almost everybody and everything.

His assumptions were indeed expressed in words and in deeds. Therefore, one may be justified in regarding the above VP as pessimistic by nature. However, we will not consider him a pessimist in the Innovation situation; we will regard him as a deviant in Merton's (1968) sense because he seemed to accept the Programme and general goals of the Organization but to reject the means, or ways, of implementing or achieving them.

It has been noted that managerial succession is very likely to lead a management team to drift towards changing the rules of the game (e.g Hage, 1980: Kets De Vries, 1988), and this is more likely when the new member is brought from outside (Vancil, 1987). However, changing the rules of the game, as Borhani wanted, might not have endangered the execution of the Programme if every thing had been in order; i.e the Programme had been well-planned so that all the resources it might demand were in place in advance, and if the Innovation, as a set, contained all its components, e.g. the curricula, teaching material, adaptation rules and procedures, etc. Moreover, Borhani's desire would not have been of any consequence if his counterparts had not supported him or if the group leadership had dealt with the issue aptly. However, in the absence of the

conditions that might have neutralized and contained the ill effect of the deviant behaviour, or of a leadership that might have used it to the advantage of the Programme, the undertaking ran into trouble.

Borhani managed to induce the other VPs to side with him gradually and consistently. The president supported them to a certain extent at the beginning because he believed that some rules and procedures could make the Organization efficient. He thought, however, that rules emphasized beyond a certain limit would be dysfunctional and inhibit the progress of the Programme. The different accents the president and the VPs placed on the rules became a source of their disagreements. In order to prevent those disagreements from surfacing, the members tried to decrease their personal contacts and thus the Council gradually shifted to a formal pattern of communication. The occasions whereby the members communicated interpersonally were confined mainly to the meetings that had to be held. In those meetings, the VPs tended to give priority to rules and procedures. They also maintained that the implementation of the Programme hinged upon the prior formulation of a detailed strategy and upon the preparation of all of its components, although some of these would not be needed for quite a time. Outside the meetings, the chair of the Council was seldom contacted by the other members, but the VPs, who were more interested in establishing a formal communication and control system, maintained their personal contacts to coordinate their activities. As such, this group's pattern of communication

resembled a circle or chain more than anything else.

Seeking the support of other team members and placing emphasis on details of a change proposal, as was explained above, is not atypical. As Pettigrew (1974) noted, changes may not be rejected outright by any one executive; he may call on support from his colleagues and/or he may emphasize the delineation of the nitty-gritty of the innovation, thereby trying to discredit or at least delay the implementation of the change. However, by what we just said it is not meant to imply that the VPs were rejecting the Programme. Whatever their real intentions, it was sufficiently clear that they wanted order and stability to receive the highest priority.

The deviant behaviour affected the Programme not only directly, as explained above, but indirectly as well. Its indirect effect was that the president's and the other members' disagreements over the methods of the implementation of DLS developed into conflicts. These internal conflicts, besides their other effects, deflected the members' attention from outside. Consequently, unlike chief executives in high performing firms who increase their boundary scanning efforts in response to "strategic uncertainty" (Daft et al.,1988), the Council's previous high scanning endeavours dropped substantially. Their contacts with the Policy-makers were reduced to a minimum as well. This led to a reduction of information that could have otherwise been obtained from the Policy-makers about the latter's plans for universities like

Ensani.   Not only that, but it appears that only a little effort was put into winning the Policy-makers' commitment to the Programme, which might have meant sufficient resources for the DLS.

The lack of adequate information and success in securing all the needed resources increased the uncertainty surrounding the Programme and the University. Such an uncertainty led to the scapegoating of the President, loss of morale, increased conservatism, and increased rigidity of the Organization. This in turn resulted in the escalation of the conflicts, that is, to the consequences that result from decline and uncertainty according to several analysts (for a brief review of some of those studies, see Cameron, Kim, and Whetten, 1987).

To the extent that the members felt uncertain about the situation, they put more effort into protecting themselves not only from what had not yet happened, but from any possible undesirable consequences of what they had done before. Group members may be able to cope with such situations if one of them bears the whole reponsibility for the group's decision, as Wallach <u>et</u> <u>al</u>. (1962) suggested. Indeed, in our case, one expected that the group leader should accept the whole responsiblity for all the decisions and activities because he was accountable for them by virtue of his office. However, as was indicated, Modeeri had submitted his resignation. Hence the other members could hardly have felt confident that the whole responsibility would be laid on him despite the fact that

his resignation took nearly a year to be accepted.

According to Staw (1976), group members may demand more resources when they feel that they may be held responsible for the consequences of the decisions they make. That is the way the VPs appeared to react when they felt they might be held responsible for the DLS-related decisions. They seemed to be over-emphasizing the need for resources as well as accentuating the rules and procedures. As a result, even when some of the demands were met, they were barely encouraged to cooperate in implementing the Programme.

Looking at uncertain situations from French and Raven's (1959) perspective, Galbraith (1973: 100) suggested that "the leverage of expert power is diminished vis-a-vis the legitimate power of hierarchical position and its complementary reward power". This occurs because in such situations hardly anyone has sufficient knowledge or a "valid theory to explain the phenomenon in question". As regards Modeeri, his legitimate power suffered severely because his resignation was expected to be accepted any day since it had been submitted. As to his reward power, he had none, at least with respect to the VPs. There was no higher position to which he could have promoted them, nor could he, according to the externally imposed regulations, have rewarded them materially. Hence, contrary to Galbraith's suggestion, he depended almost entirely on his expert power to handle the situation. However, his expert power, which, in the absence of adequate external information,

was confined mostly to his own experience and academic qualification was, indeed, counter-effective in motivating the other group members to cooperate. His dependence on that type of power resulted only in the creation of a <u>knowledge</u> <u>gap</u> (Kanter, 1985) between him and the others.

Kanter associated the knowledge gap with group members' differential access to information, which may give some members an edge over the others. This may create an inequality among the members in that the less informed ones can not contribute to the group discussions, argue their case, defend their position, etc. to their satisfaction. Such an inequality and dissatisfaction can lead to the unfortunate members' frustration. In the Council, however, such a gap was created not just by the members differential access to information, but by their differential administrative experience and the difference in their academic backgrounds. Modeeri was regarded as a task specialist mainly because he was the most experienced and the only member who had a degree in management. Although these were an advantage to him in the defunct Advisory Committee in that he was able to keep up with the members who were also very experienced and had similar qualifications, it was apparently one of his disadvantages in the Council. It was indeed a source of inequality between him and the others and a source of increased frustration for the latter. They expressed their feelings by trying to attend fewer meetings and by accusing Modeeri of being didactic.

Rather than increasing their cooperation at a time of hardship, the VPs reacted to the situation both "aggressively" and "defensively", in Silverman's (1970) sense. They reacted defensively by distancing themselves from the previous decisions, by attributing almost all of them to Modeeri, and trying to demarcate the responsibities as sharply as possible, and by over-emphasizing the rules and procedures, as was described above. They reacted aggressively by contacting the external Policy-makers and by implicitly persuading them to intervene to change either the situation, or Modeeri's position, or both.

Although effective in obstructing the Programme, both their aggressive and defensive strategies failed to reduce the uncertainty. On the one hand, the Policy-makers did not intervene, but the VPs' contacts with them eventually reduced their view of Modeeri's credibility. As such, the Policy-makers became less sympathetic to the University and to the Programme. Hence they became less willing to meet the resource requirements of its implementation. On the other hand, the VPs' emphasis on rules and procedures increased the Organizational rigidity while decreasing its viability. As a result, the overall consequence of the strategies was increased uncertainty and stagnation.

As noted, the president was task oriented whereas his aides were oriented towards rules. These orientations and the group's frustration resulting from the issues explained above,

are sufficient to account for the increasing tension in the Council, but the development of that tension into outright antagonism can be better appreciated once we look at the leadership of the group.

The leadership of this group suffered from a serious dis-advantage. Although the requirements of the task were apparently the same as they had been and the group still comprised one or two idea-men, who could suggest good ideas and translate them into action plans, it lacked any one that could take care of emotive issues effectively. As such, the tensions developed into outright atagonism and remained almost unattended until the group virtually fell apart to leave the Programme to be taken care of by another subsequent group.

Because the negative impact of Borhani's attitude to the means of bringing about the DLS on its progress outweighed any of that attitude's positive effects, we focused mainly on the former within a deviancy context while discussing the leader's inept handling of the situation. However, a brief glance at its positive outcome is in order as well. The positive impact of that deviant attitude was that it led the group to be very creative in generating the rules and procedures. Although, irrespective of their characteristics, the increased regulatory mechanisms were a major barrier to the progress of the Innovation, they were well-thought out, and relatively comprehensive. Hence they could lead to some organizational efficiency. Indeed, some of them were emulated by the other

universities that became aware of them.

Moreover, although this Council may appear entirely ineffective because of the way it dealt with the DLS, it proved effective in getting the CS routinized, which could render the persistent personal attention it had once required unnecessary. Rules and procedures were consistant with this, a state that was compatible with the VPs' attitudes to the management of the Organization.

Considering the way the Administrative Council treated the Programme, one may wonder how it kept going at all. To answer this question requires one to look outside the University. As a matter of fact, environmental forces were very important in pushing the Programme foreward. In view of the impact they had on the whole process of the Programme, they will be discussed in the next Chapter. However, before we proceed, let us juxtapose Butler's hypotheses concerning a relationship between innovation and some group variables and the relationship between the DLS and the group variables noted in this chapter.

The positive and negative impacts of the Council on the implementation of the Conventional System and the DLS not only contradict each other, but suggest that Butler's (1981) hypotheses may be more reliable if they are related to specific innovations, rather than to innovations in general.

Indeed, some of Butler's hypotheses (see 6.5) are supported

insomuch as they relate just to the Conventional System or to part of the process of the Programme. For example, it was found that a cohesive group, the Advisory Committee, with an all-channel communication pattern, enjoying all the elements of leadership, as described by Butler, was effective in the initiation and adoption of the Programme. It was also found that another group, the Administrative Council, with some of the characteristics Butler suggested as effective in the implementation stage of an innovation, was actually effective in executing and routinizing the CS. But Butler's argument does not account for the ineffectiveness of a group, such as the Council, in the execution of the Programme, although his suggestion that the presence of a deviant in a group may disrupt implementation of innovation was supported. Of course, his discussion of the effect of deviant behaviour on innovation may apply to the findings from other cases, but in this case the deviant behaviour did not have an adverse effect on the Conventional System. It appears, therefore, that reasons other than group characteristics are required to explain adoptability and implementability of innovations.

It is believed that the attributes of innovation may explain why the same group with the same characteristics may influence various innovations differently at a particular point in time. Incompatability of one innovation and compatibility of the other with group members' beliefs, values, etc. may be one reason. In this case the possibility of this reason explaining the situation can not be ruled out, because when a new member

joined the Council the situation, that had more or less favoured the Programme, changed. But a better explanation may be offered by attending to the degree that the two innovations were planned and were either <u>stress</u> or <u>slack</u>.

It has been argued (Ch.12) that whereas the CS resembled a <u>slack</u> innovation, the DLS/Programme could be classified as <u>stress</u> and less well-planned and developed than the CS. As such, it may be reasonable to say that Butler's hypotheses relate to slack and well-planned innovations. Where an innovation requires modifications and improvements and in as much as it calls for more resources as it unfolds, a well-integrated, cohesive group, with an all-channel communication pattern, enjoying a leadership that can act as both a task and as a socioemotional specialist, is more likely to work the innovation through successfully. It is believed that such characteristics can create a climate free from the conflicts that can deflect attention from those things that require constant scanning. Moreover, the group, as a whole, may demonstrate higher tolerance for uncertain situations due to the psychological support the participants may give each other.

To sum up, in the discussion of the impact of group processes, the Advisory Committee and the Administrative Council were singled out as the dominant Organization groups.

Such group processes as cohesiveness, patterns of intra-group communication, deviance, risk-taking and leadership were

analysed relative both to the Advisory Committee and to the Administrative Council. It was indicated that the former was cohesive, enjoyed an all-channel communication pattern and the members, together, demonstrated effective leadership in the Innovation situation. It was also illustrated that the Committee was high in cohesion and risk-taking compared to the Administrative Council.

It was said that the Council's communication pattern was circle or chain-shaped, displaying much less effective leadership due to the lack, particularly, of a socioemotional spacialist. The effect of deviant behaviour on the Council was that it adopted a very highly conservative attitude to the Programme, trying to avoid the risk that was involved in its implementation.

As noted, the Advisory Committee's characteristics were not without their shortcomings, of which some were enumerated. Even then, their advantages appeared to have outweighed their disadvantages, so that the Programme was conceived, formulated and legitimized in a relatively conflict-free climate. Although the Committee, with all its members, did not survive long enough to see to the implementation of its product, it displayed some degree of effectiveness in the early stage of the execution of the CS. Indeed, the Administrative Council was also effective relative to CS.

Despite the fact that the Council's characteristics differed from those of the Advisory Committee's, it was able to complete

the implementation of CS effectively and efficiently and more smoothly than could have originally been imagined. However, the rigidity that developed in the course of the implementation and routinization of the CS came as a severe blow to the its improvement and reduced work on the Programme almost to a standstill.

Butler's hypotheses concerning a relationship between some group processes and innovation were compared with the relevant findings of this study. It was suggested that his hypotheses would be more reliable if they were related to slack and very well-planned innovation sets that contain all the components they require to be implemented.

CHAPTER SEVENTEEN

The Impact of the Organizational Context

In the discussion of the impact on the Innovation of the individuals, cultures and groups, the influence of the Organizational context was partly attended to as well. It was noted, for example, that the environmental pressures seemed to have intensified some individuals' personality traits, e.g. risk-taking. It was then shown that the uncertainty surrounding the Organization was one of the factors that pushed the it from a task culture, flexible system to a role culture, rigid system. It was finally pointed out that this uncertainty was partly responsible for the segmentation of the second Administrative Council, for the stress it exprienced, and for the conflicts which developed in that group. Besides the foregoing, the Organizational environment had other effects on the DLS to which we turn in the following paragraphs.

Since the impact of the context of the DLS stemmed from the different elements in that context, it is useful to define the environment of the University and identify those elements clearly. To do so, the environment will be viewed as more than one unit. It will be regarded, following some authors (e.g. Dill, 1958; Thompson, 1967; Weick, 1979; Bourgeois, 1980), as a bi-level unit. One or more sets of the elements can be related to each of its levels. Let us first see what these environmental levels are.

The two environmental levels are called <u>task environment</u> and <u>general environment</u>. The task environment includes the elements that relate most directly to certain groups of organizations as opposed to certain others. Those elements consist of clients/customers, suppliers, the regulatory factors bearing specifically on one type of organization, etc. The general environment comprises factors such as social, legal, political, economic, etc. conditions. The elements in either of the two environmental levels are not fixed. Some elements of the general environment of one organization may constitute some elements of the task environment of another.

According to the above taxonomy, the general milieu of the University consisted of the general state of the economy, society, etc. as well as the general public and also those elements, who were not necessarily organized interest groups, but who were sometimes prompted to act as interested individuals. The prominent characteristics of the whole environment of Ensani were instability and turbulence, which characterized the aftermath of the Revolution. However, when Ensani was formed, its task environment was comparatively stable.

The task environment of the University included mainly the clients, or students, the Council for the Cultural Revolution (CCR) and the Ministry for Culture and Higher Education (the Ministry). The CCR was responsible for policy-making at a

higher level but the Ministry had to see to the implementation of those policies by the universities and the allocation of resources to them. However, because both the CCR and Ministry cooperated closely on all those matters, we called both of them the Policy-makers. They will be called formal legitimizers vis-a-vis students who will be referred to as informal legitimizers. Indeed, students were a significant element in the acceptance or rejection of some of the relevant policies and programmes although they had no formal authority in connection to those. Since the screening of university applicants was performed by the Policy-makers at a national level, who subsequently allocated those successful to the universities, the Policy-makers can be regarded as the suppliers both of resources and of students. As such, the universities depended mainly on the Policy-makers for their survival, if not for their success.

It has been asserted that environmental changes call on organizations to change their strategies and structures (Burns and Stalker, 1961; Lawrence and Lorsch, 1967). This assertion was certainly true with respect to the organizations in the above environment. But over and above the theoretical claims that a change in organizational strategy will result in a change in the organizational structure, the emancipated people in the environment of Ensani demanded a change in the structure of the whole society including, of course, the structure of the organizations that resided in it. Having made the Revolution, they now wanted to have a say in whatever they thought was

relevant to them. They had been deprived of freedom for years, if not for centuries. Therefore, they wanted to use their freedom as much as they possibly could. We do not get into the societal repercussions of the expression of those demands, but it is necessary to mention one of the general consequences of the situation for the organizations.

To bring the chaotic state of affairs under way quickly while responding to the people's wishes, the new leaders tried to translate those expectations into laws, policies, and rules. They sometimes went as far as laying down standard operating procedures for the organizations. Although the grass roots' share in power was legitimized by those laws, etc., the administrators and managers, in both the public and private sectors, lost much of their decision making power. As such, few organizations could adapt to the situational demands in the manner they chose. The universities, even those with unique characteristics, were certainly not among those exceptions. Hence, although Ensani was unique, in being the only University with a DLS, it was treated very much like the other universities.

The Policy-makers, therefore, influenced the DLS process indirectly by making the University adhere to rules, procedures, and schemes that did not apparently concern the Programme. However, because the Programme and the requirements of its implementation had to be approved by the Policy-makers, it was influenced by them directly as well. We will first

examine some instances of their indirect impact.

An indirect impact of the Policy-makers on the DLS process derived from the tenure and incentive schemes they had devised. The schemes were indiscriminate and had to be put into effect by all the institutions. On the one hand, the emphasis these placed on teaching and research functions far outweighed the emphasis they laid on administrative assignments. On the other hand, the academic members of the administrations could not have benefited from similar schemes that there were for non-academic members.

The schemes might not have had any adverse effects in slack situations if human resources were in good supply and if there was a large number of academic staff to perform both academic and administrative fuctions. However, whereas the academic staff was in short supply, the externally imposed rules allowed only academic members with certain backgrounds to hold administrative positions. Hence there was only a handful of those members on whom the burden of administrative jobs was laid.

To be sure, the schemes could not have benefited the academic members of the Advisory Committee because the demands of their administrative jobs claimed so much of their time that they could have neither taught nor done research without damaging the quality of the work they were doing. Research (e.g. Powell and Schlacter, 1971; Kanter, 1985) indicates that

extrinsic rewards enhance group members' participation. Even if this finding is not true in all situtations, it is quite reasonable to think that extrinsic punishment, though totally unintended, can only dissuade group members from participation. Indeed, the schemes appeared to the Advisory Committee members as if they had been being penalized for the extra effort they had been expending on the Programme to keep it going.

Those members, however, did not respond to the implications of the schemes immediately after these were implemented, although they kept nagging at the situation and kept working hard in the Initiation Phase of the Programme. They seemed to have found the formulation of the Innovation and the development of the strategy for the Organization intellectually challenging, a kind of challenge in which academics like to be involved. They also seemed to have felt responsible for so many DL students, who had remained unattended for years. However, once they had managed to hand the Programme over to the other participants for the implementation and begun to think that their active involvement was not required anymore, the situation reversed somewhat. Moreover, the fact that they failed to persuade the Policy-makers to modify the schemes to respond to particular situations gave them an added excuse to compare their inputs and outcomes with those of their counterparts not involved in the same situation as they were. They found the situation unfair, inequitable, and unbearable. Therefore, a few of them tended to reduce their performance by expending less effort, while a few others stepped down as Committee members. In other

words, the schemes finally prompted the members to do what people, according to Adams (1965), are likely to do in inequitable situations.

The DLS, given its spiralling, or iterative, nature, needed continual attention. Continual attention to the process required the same initial group of people to continue to work on it together. Hence a disruption in the initial group could, at least, lead to a prolongation of the process. Indeed, the DLS process was prolonged because of a turnover in the group members, as was noted in Ch.16.

The Policy-makers not only affected the Programme in the foregoing manner. They did so also by letting the opponents of Ensani's administrators air their opposition through them. Once the Policy-makers indicated that they might legitimize the Programme, some opponents of the administrators feared that the latter might use the Programme to set in motion those elements and constituent parts of the University which would have otherwise continued to be inactive and thus strenghten their position. They appeared to have been waiting for those people to fail in getting the whole University going, just as their predecessors had failed to do. Such a failure, they thought, could result in the termination of the administrators' office. They believed they could then step in to present the Policy-makers with their own version of a DLS, which they had apparently held back for some time. This, they seemed to think, would eventually entitle them to the control of the

University, which was regarded as a springboard for social and/or political advancement by some of the participants and the observers alike.

The fact that the grounds were prepared for the legitimation of the Programme came as a serious blow to their expectations. As was explained earlier, the opponents of the administrators, especially some members of the Na'me University, one of the constituent parts of Ensani, tried to obstruct the Programme through the Policy-makers in the various stages of the Innovation, albiet without much avail. Indeed, the vice-presidents also tried to bring the president into line with the way they wanted the implementation of the Programme to be undertaken through the Policy-makers. Those efforts also led to the prolongation of the DLS process.

Overloading the University with rules and regulations was also a way the Policy-makers impacted on the Innovation. Time and energy, which were needed for the handling of the Innovation, were the least available resources. Nevertheless, a good amount of those resources were wasted in the process of making good sense of those regulatory mechanisms so that they could be properly enforced.

The Policy-makers influenced the Innovation directly even before it was initiated. Given their abolition of the previous DLS's, few individuals in Ensani viewed the formulation of a new DLS as worthwhile. Almost everyone thought such a thing

would never be accredited. Therefore, the individuals who finally formulated the DLS never considered the completion of the "Innovation Set" seriously by including in it, at least, those components that were known to be needed even from the beginning.

It was pointed out in 6.5.1 that the incompatibility of an innovation with an adoption unit's beliefs, values, and norms can lead to the rejection of the innovation. In the Formal Legitimation Sub-process, the Programme, or more precisely the Policy-makers' assumptions of the Programme (because they only made assumptions about it in that Sub-process) were compatible with some of those individuals' beliefs, etc. Indeed, unlike the CCR, the Ministry seemed over-enthusiastic about the Innovation. The Ministry were expected to adopt, and did adopt, a more pragmatic stance on a suggestion that promised an increase in the provision of higher education without demanding considerable resources. The CCR were responsible for the quality of the outcomes yielded by the higher learning insitutions, but the Ministry was particularly accountable for the shortage of university graduates.

The Ministry's over-enthusiasm about the Programme combined with Ensani's strategy of winning the accredition of the DLS led to the formal legitimation of the Programme. Nevertheless, the CCR's attitude towards a non-conventional system made formal legitimation a tortuous as well as a time and energy consuming sub-process. Even then, the Policy-makers, in

effect, accredited, using Linton's (1936) terms, the _form_ and _function_ of the DLS in general, without reaching a consensus as to its _meaning_.

Rogers and Shoemaker (1971) quoting Linton (1936) noted that people may converge on the _form_ (i.e. what it denotes in appearance) and the _function_ (i.e, the use) of an innovation without converging on its _meaning_ (i.e. the meaning each attaches to the innovation). Indeed, the Policy-makers did attach different meanings to the Programme. As was stated, the Ministry were over-enthusiastic about the Innovation because they took it as an inexpensive higher learning system. The CCR approved it because they thought its approval, even though it was only symbolic, could relieve them of the pressures that were being placed on them by the DL students for the clarification of the latter's position.

The Policy-makers' lack of attention to the problem and Programme was a reason why they did not attach a more realistic meaning to the DLS. They demonstrated their inadequate knowledge of the DLS on several occasians. When they said the DLS was devoid of any practicality and complained that they were presented with a different version of the Programme each time it was explained to them, they demonstrated both their lack of adequate attention to and knowledge of the Programme.

However, as was noted in 13.1.5, the implications of the Programme came to be understood by the Policy-makers when its

implementation was undertaken. It was only then that even those members who had favoured the Programme passionately began reducing their unqualified support for it. They realized, for example, that the Programme was not so inexpensive as they had once imagined it was.

Of course, they never tried to block the progress of the Programme overtly, but rather they tried to relegate it to what they had assumed it was, or had to be. A strategy they adopted for doing so was to be selective about the possibilities the University asked to be made available to it for the implementation of the Programme. For example, when they were asked to approve of setting up of four education centres and the provision of some resources, they tended to reject the former and consent to part of the latter. As such, they tried to make the University toe their line. Hence, using Schon's (1967) words, a "propose-dispose" process was triggered which only added to the length of the DLS process.

What we have said so far is that resource dependence and regulatory factors constrained managerial actions, led to managerial succession and threatened the execution of the Programme. These findings are compatible with some previous theoretical and empirical findings concerning the influence of environment on organization in general and on innovation in particular (e.g. Dill, 1958; Thompson, 1967; Salancik et al.,1975; Pfeffer and Salancik, 1978; Sulton and Rousseau, 1979). We should now see how students and other elements of

the Organizational environment influenced the DLS.

The paradox of the eventual execution of the Programme in the face of the Policy-makers' unsustained support for it and some of the University members' attempts at obstructing it can be partly explained by the influence of the DL students and the general environment. Indeed, the DL students' very existance was an important factor in prompting the University to initiate and implement, and the Policy-makers to legitimize, the Programme. Being such forceful elements, they even assisted the University a lot in having the unyielding Policy-makers bow to some requirements of the Programme and thus made the prograss of the Programme possible.

However significant the students were, they might not have influenced the Innovation the way they did if the environmental developments had not proceeded to their advantage. On the one hand,the general state of the country was developing in such a manner that the need for university graduates was being increasingly felt. Because the overly stretched capacity of the existing universities could not have been expanded in the short run, some innovative means were required to respond to such growing demands. On the other hand, a good number of social and political actors supported the students by pushing for the clarification of the latters' position forcefully, which required the Programme to be put into effect quickly.

The major impacts on the DLS of the students and of the general

environment may be attributed to the exceptional circumstances that were created by the Revolution. Having been a popular Revolution, it should have upheld people's power. Moreover, it may be argued that the new leaders could not afford to be heedless to the environmental demands. True as these arguements are, it seems that it would be justifiable if the _intensity_ of the influence, not just the influence, of those elements were related to the Revolutionary situation. It was noted, a long time ago, that even in non-revolutionary situations the environment induced innovation (Burns and Stalker, 1961) and its social approval warranted its implementation (Fliegel and Kivlin, 1966). Moreover, studies in the US (e.g. Von Hippel, 1976) and in the UK (Graham _et_ _al_. 1987) indicate that customers and clients do strongly impact on innovation and decision-making processes in non-revolutionary situations. Indeed, Graham _et_ _al_.'s (1987) study of the influence process in public and private British organizations demonstrated that customers and clients had a major influence on all those organizations' decision-making processes.

The positive influence on the Programme of the above elements appears so significant that one is led to neglect their adverse effects. However, they had both direct and indirect adverse effects as well. The direct effect stemmed from the fact that the complexity of the Programme and shortage of resource were not understood by the students, their supporters, or most of those in the environment of the University. Therefore, the persistent demands they placed on the University for the hasty

implementation of the Programme served only to deflect the Organizational members from the thoughtful planning and preparation for its introduction.

An indirect influence on the Programme resulted mainly from the improving conditions in the general environment. To the extent that the social-political system was being stabilised and the state of the economy being improved, a good many of the Organizational members were being lured to business and industrial firms. Those firms could now offer not only secure jobs but higher pay rates than other organizations. Even if legal sanctions could be applied to prevent those members from leaving the University, they could not help to boost those persons' morale, that kept eroding because they felt the whole situation was unjust. Consequently, the DLS, which needed a lot of hard work on the part of almost all the Organizational actors, suffered from the manner in which those demotivated people worked.

Having pointed to the impacts on the DLS of the major elements in the environment of the University, it is worth looking at the ways the leading participants dealt with them. According to some authors (e.g Tushman and Nadler 1980), environmental forces need to be managed. The higher echelons in Ensani did, indeed, appear to manage those forces, although perhaps not always effectively.

As we saw in the case, they took the initiative by formulating

the Programme, thereby preempting any alternative that environmental elements would have otherwise imposed upon them. To put it in Child's (1972) words, they made a strategic choice. That they made such a choice should not imply that they were totally free to choose any course of action they wished. Nor should that imply that they could have avoided the choice of a course of action without jeopardizing their own positions, prestige, or status, or their Organization's legitimacy. The environmental demands, Organizational potentialities and some other considerations set some limits. It was within those limits that the choice was made.

In the Initiation Phase of the DLS, the Administrators approached the Policy-makers as innovation brokers. They never presented the Policy-makers with the solution that they had formulated for the problem of the DL students. Rather, they indicated to the Policy-makers only that they had a solution and induced them to go after it. Since the Policy-makers had abolished the previous DLS's and had left the relevent students unattended, those students and their supporters kept pressing the Policy-makers to do something for them. Because the Policy-makers' preoccupation with the new CS and with other things kept them from addressing the issue, it was expected that they would eventually ask the University, to which the students belonged, to put forward their solution. It was believed that if the Policy-makers asked for the solution out of desparation, they were more likely to accept it readily.

These expectations were realized and the DLS was accredited. However, after the formal legitimation of the DLS and as it moved towards its implementation, the Administrators' control, by comparison with that of other forces, over the Programme seemed to weaken.

On the one hand, the technical requirements of the implementation of the DLS appeared to be guiding managerial action inside the Organization, as Woodward (1965) would have foreseen. On the other hand, the Programme's requirements for external support seemed to have placed the evolutionary forces (Aldrich, 1979) in control from outside. Unless the Programme enjoyed the Policy-makers' sustained support, no resources could be acquired for its implementation. Moreover, unless the students had accepted the Programme, its implementation would not have made sense irrespective of whether or not there were sufficient resources. The Programme had to be accepted by the informal legitimizers as well.

As was noted earlier, unlike the other environmental elements, the Policy-makers did not support it after they had accredited it. According to Palazzoli (1984), organizational consultants are often invited by potential losers who want to see a restabilization of the situation that is shifting towards change. When such is the case, one should not be surprised to find that the consultant is expected to act as an agent for stability instead of a change agent. Those who invite the consultant may normally sanction change in the hope that it

will have such implications that they wished it to have. Implications contrary to their initial expectations can therefore lead them to back away part-way through the exercise. The Policy-makers and the Administrators relationship over the DLS was the relationship between the losers and the organizational consultant just defined. Accordingly, once the Policy-makers found the implications of the Programme different from what they had expected those to be, they tended to pull back. By accrediting the DLS, at least symbolically, they had shifted the responsibility for the students from themselves to the University; they were now under little pressure from the students.

In response to the Policy-makers' apathetic attitude to the implementation of the Programme, the Administrators tried to get all the interested external individuals involved in the situation. To do so they tried to coopt some members of the Policy-making group so that they would sit in the Advisory Committee or Administrative Council meetings and be exposed to the problems involved. However, because the cooption process was very lengthy, the Administrators were led to coalesce informally with an element of the task environment that supported the Programme vehemently; namely the students. That the students directed their pressures onto the Policy-makers again and forced them to approve of the establishement by the University of four education centres, after they had rejected such an undertaking, was a result of that coalition.

Managers and administrators may coopt influential individuals, in their environment, or coalesce with them to protect their own interests or their programme, as has been noted previously (e.g. Selznick, 1949; Thompson, 1967; Pfeffer and Salancik, 1978). Evidence from our case indicates that had the Administrators fully succeeded in coopting and/or coalescing with one or more influential groups in the environment, the DLS Implementation Phase could have progressed no less smoothly than its Initiation Phase had done. However, the Administrative Council, that was involved in the Implementation Phase, was so embroiled in the internal conflicts that it could not have possibly pursued those Programme-smoothing strategies.

The above analysis of the influence on the Programme of the contextual elements suggests that these were very significant in determining either the success or failure of the under-taking. Leaving aside the exceptional conditions in the environment of the University, one may wonder whether organizational context has the same impact on all major innovations. The Programme had particular characteristics, mentioned in Ch.12 above, and thus differs from innovations that do not have the same attributes. In view of this and considering the similarity of the Programme with the innovations involved in two other studies, which support our finding and are discussed below, a tentative answer would be negative, although a reliable answer requires further research. However, it is useful to know how the substantial effect of the environment on the innovations in these two studies were

accounted for and whether the way they explained the issue can be used in this and future research.

Baldridge and Burnham (1975) accounted for the major impact of the environment on the educational innovations in terms of the complexity of those changes. This complexity was probably responsible for their being exposed to the contextual factors. Kimberly and Evanisco's (1981) comparison between the influence of individual, organizational, and environmental variables on their two sets of administrative and technical innovations in hospitals allowed them to address the issue more specifically. They found that although individuals had some influence, particularly on the administrative innovations, the environmental variables accounted for both administrative and technical innovations, but more for the latter category.

If we were to be guided by the above authors, we would have to relate the strong relationship between the environmental elements and the Programme to its complexity and/or technical nature. Plausible as this explanation may at first appear, it does not seem to address the issue convincingly. On the one hand, it is doubtful whether complexity (particularly if it is not defined precisely and reliably) is the effect of the environmental forces that tend to affect innovation or a cause of the external influence processes. One should not forget that complexity of a situation may be projected onto an innovation to make it appear complex. On the other hand, distinguishing technical from administrative innovations on the

basis of the criterion Kimberly and Evanisco used impairs their explanation of the issue.

These authors realized that tangibility does not necessarily make an innovation technical. This was implied in 13.2. Hence the two sets of innovations in their study had both physical and non-physical referents, i.e they were both hard and soft. Therefore, to label their innovations, they used a criterion based on the formal role of those who took the innovation decision. If an innovation was decided upon by the leading staff members and was used for the impovement of the administrative capabilities, it was administrative. If its adoption was supported by those particular higher line members, whose reponsibility was to improve the range or quality of the hospitals' services, it was technical.

Even if the above criterion were a valid one in distinguishing between Kimberly and Evanisco's innovations at the operational level, it may not be valid at the strategic level. Intuition and empirical evidence (Hegarty and Hoffman, 1987) suggest that strategic decisions are made by the organizations' highest ranking officials. If this observation were interpreted in the light of Kimberly and Evanisco's criterion for distinguishing between technical and administrative innovations, then we could conclude that all strategic innovations are administrative or managerial because these are decided upon by persons in higher administrative or managerial roles. If all strategic innovations were administrative, in the sense just explained,

one may then wonder why they may be differentially affected by a range of variables. This suggests that if variables do in fact influence strategic innovations differentially, one must look for explanations other than in the technicality, administrative-ness, or even the complexity of the innovations.

It appears that reflexive and transitive dimensions can provide an answer to the issue. Indeed, like the Programme, Baldridge and Burnham's "complex" and Kimberly and Evanisco's "technical" innovations were transitive, i.e. externally oriented. All these were meant to impact mainly on their external environments not on their adoption units. It should not be surprising if the purpose of such innovations, to influence their environments, should provoke the latter to reciprocate by influencing those innovations. In contrast with these, one expects reflexive innovations not to be so highly influenced by the organizations objective, as opposed to Weick's (1979) enacted, or subjective, task and general environments. Whatever their manifestions, they are basically internal ventures that have to do with house-keeping or maintenance fuctions, irrespective of whether or not they will eventually lead to an enhancement of organizational efficiency or effectiveness.

A point that is in order is that reflexive and transitive, in the above context, are not being suggested as new epithets for Kimberly and Evanisco's administrative and technical innovations. It should be born in mind that if innovations can

be distinctively and reliably classified into administrative
and technical, both types can be either reflexive or transitive
in the sense discussed in Part 1. As was indicated, technical,
reflexive, etc. are the dimensions of any single major
innovation. What is important, therefore, is that one should
identify the most relevent dimension(s) in explaining a
relevant issue.

To sum up, at the beginning, the task and general environment
of the University were identified. The influences on the DLS
of the elements in those environments were analysed. It was
indicated that whereas regulatory factors tended to inhibit the
Programme, the students, their supporters, and the general
environmental demands pressed it forward. It was demonstrated
that the mounting pressures for the implementation of the
Programme tended to hinder thoughtful planning and preparation
for the undertaking. It was also noted that improvements in
the general environmental conditions lured the Organizational
members to the organizations that offered higher pay rates and
thus threatened the smooth progress of the undertaking, which
was at the mercy of motivated and competent human resources.

The manner in which the administrators dealt with the
contextual elements was reviewed. It was said that they
adopted an innovation broker's role in dealing with the Policy-
makers in the Initiation Phase of the Programme. However, they
tried to coopt the Policy-makers and coalesce with the students
and their supporters in its Implementation Phase.

It was illustrated that the environmental demands set some guidelines as to the type of innovations that could have accomodated those demands. However, the specific type of Innovation, which was adopted, was the administrators' choice. Having been chosen, the Programme, in its Implementation Phase, came to fall prey to the evolutionary forces.

Finally in trying to account for the significant influence of the environment, the explanatory power of the factors advanced by some authors was examined. Having found those factors rather weak in explaining the issue, it was suggested that it was the transitive dimension of the Programme that provoked the contextual elements to attend to it persistently and impact upon it substantially.

Part Four

The Implications of the Study

CHAPTER EIGHTEEN

The Implications for Theory

As a way of commemorating the late Howard R. Davis, the author
who devoted almost all his intellectual life to knowledge
utilization and planned change in complex social systems, Rich
(1986) reviewed Davis' works. He found Davis' observation of
planned change as "...really very, very tough..." significant.
Although this may sound a truism, one may hardly appreciate the
reality of this conclusion without having been oneself deeply
immersed in a situation whereby a deliberate significant change
is attempted. The case we have analysed may have captured some
possible complexities of the phenomenon. It is these
complexities that give a student of innovation the feeling that
he is always at the beginning of the road. Hence we start from
the beginning again.

In Part One of this study, innovation was viewed from a
theoretical perspective. Some definitions, categories,
sources, innovation process models, and determinants of
innovation were examined. Part Two was devoted to the des-
cription of an attempt at innovation. The scope and design of
the study came at the beginning and the general context, the
setting of the study, the Initiation and Implementation of the
Innovation followed. In Part Three, the case was analysed.
The analysis highlighted the significant aspects of the case.
It began with a delineation of the dimensions of the

Innovation. It continued by presenting a model for the Innovation. Then came the influence of the individuals, organizational cultures, groups and environment. We now set out to look at some implications of the analysis. The implications are intended mainly for theory, but a few very general suggestions will be made for practice as well. In reviewing the implications, we look at the Innovation Process, individual, cultural, group, and contextual variables.

In Chapter 2, we defined innovation as a process whereby an adoption unit chooses an alternative which it has perceived as superior or different from a current practice and/or outcome and attempts to realize it so that a deficiency in either/or both is corrected or so that either/or both are improved.

The case material indicated that the leading participants in the Organization under study chose an innovation that they thought was superior to other alternatives that were available for correcting a deficiency in the Organizational outcomes. The description of the case revealed that the choice of the Innovation and all that was involved in its realization represented a process. It was also noted that the process did not occur in a vacuum; a host of events affected it and it, in turn, affected certain events in the Organization.

The analysis of the Innovation process demonstrated some of its characteristics. The surface pattern of the development of the Innovation, which involved some sub-processes, was called its

overt characteristic. The tortuous path of the Innovation, recursiveness of the sub-processes, movement of the Innovation from high generality to high specificity were called its covert aspects. Moreover, these aspects of the undertaking included its generative and duplicative qualities as well as its influence on the other processes of the Organization. The fact that the Innovation was also a process of assumption-making and assumption verification was noted as well.

On the one hand, the overt aspect of the DLS model was quite comparable to other innovation models, of which some were covered in Ch.5. Three representative models were compared with the DLS model, and some sources of their (dis)similarities were identified. On the other hand, there were similarities between the covert characteristics of the DLS model and the attributes of the processes of policy development and implementation which have been noted by some authors (e.g. Mitroff, 1983; Pressman and Wildavsky, 1973; Dunsire, 1978).

The DLS process model and the others may look similar in yet another respect. These have all been regarded as "rational". This is of course true on the surface but not very much so in reality. The rationality of non-DLS models stems from the assumption that an innovation can be fully planned in advance. The innovation context remains constant. Innovators have access to all information and resources they may need. They have leeway in dealing with innovations all along. Consequently, they have little problem behaving rationally by

matching the best means and ends.

The DLS process model, however, emerged from the "bounded rationality" (Simon, 1957: 79; March and Simon, 1958: 169-71) of the participants in the Innovation. It was impossible for them to predict the turn of events. Moreover, the information and resources were scarce. The participants', even the "dominant coalition"'s, authority and autonomy over the Innovation were insufficient to let them steer their "choice" the way they wished. Yet irrespective of whatever the outsiders thought of the participants' dealing with the Innovation, every single one of the latter believed each was doing his job rationally in the face of the above constraints.

The above models, non-DLS and the DLS, of innovations may be associated respectively with the "closed rational" and "open rational system" models of organization as discussed by Scott (1981: 121-32). According to the closed rational model, it is assumed that goals are known, tasks are simple to perform, resources are uniformly available, and perhaps there is not much external interference. The assumptions underlying the open rational system are that organizations design their structure rationally. Certain individuals, "managers or designers", concerned with efficiency and effectiveness, mediate between environment and organization rendering the latter responsive to the former's demands.

Indeed, implicit in our analysis of the case are two models and

not just one. There is not much research relating models of organization to organizational life cycle, although different models have been associated with different levels of organization. For example, according to Thompson (1967) an organization may be 'rational' at the technological level, 'natural' (i.e. enjoying some degree of informality and complexity) at the managerial level, and 'open' (i.e. relating and adapting to environment) at the institutional level. However, our analysis suggests that we would need different models to uncover either the Organization of our concern or the Innovation it undertook. This is so because both the Organization and the Innovation developed, generally speaking, from one phase to another. These Phases of the Innovation and their Organizational and environmental antecedents have been tackled in Chapter 17 and will be explained a little more later. The following, however, might very briefly give an idea as to how the development of the Innovation can be related to models of organization.

In the Initiation Phase of the Innovation, the Organization could be defined in terms of a "rational system model". Although the environmental elements constrained the Organization considerably, the admininstators were still very much in control. They could work on cutting costs, effectiveness, and on designing their Organization to cope with the environmental contingencies. However, in the Implementation Phase, the Innovation was very much at the mercy of environmental elements. These elements were sometimes so

forceful that it felt not just that the survival of the Innovation but even that of the Organization was at stake (see, Ch.17 and below). The president's request for resignation and his apathy in dealing with the prevailing state of affairs only exacerbated the situation. Given such high degrees of environmental complexities and individual contraints, the Organization could best be understood as an "open natural system" in Scott's (1981: 131-32) sense.

A few innovation analysts (e.g. Zaltman et al.,1973; Rickards, 1985) are more or less explicit about the model of organization they advocate. They do not relate a model of innovation to a model of organization directly, although they indicate that cybernetic systems are better responsive to information processing requirements of innovations. This study may have only lent support to those authors' position although for the sake of simplicity it would suggest that the least prac- titioners can do for their organization to be innovative is to foster an "organic" system (see, Ch. 19). It should be born in mind, however, that an innovation model may not have much to do with an organizational model. Organizations, whatever their reality, may treat an innovation as a spin-off process from their normal organizational processes, say, by setting up a subsidiary for handling it. As such, the model which may best explain that innovation can be quite different form the one with which one can explain the organization handling that innovation.

The above paragraphs implied which model(s) of organization can underpin our Innovation model. However, if organizations are seen as innovations (see, 13.1.2), then a reliable model of strategic innovation may contribute to an understanding of organization. This is not to say, for example, that as an organization ages, it necessarily goes through exactly the same sub-processes that a service innovation may do. What is being said is that organization, as an innovation, may follow a general pattern of development comparable to that of an innovation. The following evidence indicates that a model of innovation, such as emerged in this study, may produce a useful conceptual framework for a study of organization.

Burns and Stalker's (1961) conceptualization of organization as a process and the concept of "organizing" (Weick, 1979) does indicate that organization, like an innovation, is a process. Stages of "revolution" and "evolution" (Greiner, 1972) and stages in the life cycle models (for a summary, see: Quinn and Cameron, 1983) are indicative of some other similarities between a model of innovation and organization. Recursiveness of events in the process of development of organizations and a few other themes relevant to the organizational trajectory (Clark and Starkey, 1987) also look similar to what we called the properties of the innovation process. Given these similarities, it would be worth exploring if a reliable model of innovation can indeed enhance our understanding of organizations. Nevertheless, we will leave this subject here so as not to fall far beyond the scope of this study.

Our findings concerning the process of the Innovation suggest that a reliable model of innovation may apply to heterogeneous organizations even across nations. However, a reliable model may not emerge if researchers continue to conceptualize innovation only as a simple, linear process. Attempts to offer a universal model by concentrating merely on the overt aspect of innovation may only elicit the sub-processes that are likely to be involved in various situations. It is obvious that innovations in different organizations can involve different stages or sub-processes, if all students of innovation could agree on the same terminology to describe particular stages or sub-processes. For example, where an organization enjoys slack resources, their allocation or reallocation may not be regarded as sufficiently important a decision or event to be treated as a sub-process of the overall innovation process.

The merit of the simplistic models should be emphasized. A full picture of the steps that may be involved in the realization of an innovation can make for better informed action, which might otherwise be less informed. Hence a reliable model of innovation should incorporate the covert aspects of innovation together with its overt aspect. The former aspects are, however, more likely to be applicable to all situations and thus may lead to a theory of innovation if pursued persistently and rigorously.

Although not all innovations may involve the same sub-

processes, no innovation can be instantaneous. Innovation is a temporal phenomenon, a process that is expected to lead to an overt manifestation of something specific. However, hardly anything complex can be clear and specific without having once been general and ambiguous. A simple example from our every day life can make our point clearer. If we have ever tried to make an important suggestion, particularly, in writing, we know very well that only rarely have we been able to do so without having revised it several times. Only after we have reviewed our suggestion repeatedly may we be satisfied with it. It is the deep understanding of such exercises, involved in the process of making an innovation specific and operationalized, that can lead to a theory of innovation.

As indicated in the analysis, the process whereby the innovation moved from generality to specificity was tortuous and the sub-processes recursive. It was implied that this process resembled a procedures of advancing theories and testing them. This suggests that the methods used for research may be useful for explaining the manner in which the participants in innovations theorize about it and the other stake-holders' properties, operationalize their propositions, and finally test them, often quite unwittingly (see, 13.1.4 & 13.1.5).

As for the influence of the Innovation, the impact of the DLS process on the Organizational processes, particularly for- malization, was noted. As we have seen in 6.3 and can be seen

in several studies (e.g. Zaltman et al., 1973; Kimberly, 1981), almost all innovation analyses have been concerned with the impact of organizational structural variables on innovation. However, just as a number of previous researchers studied the influence of production technology and/or strategy on organizational stucture (For one such prominent study and a review of others, see: Woodward, 1965; Galbraith and Nathanson, 1978), analyses of the effect of innovations, particularly those that are not intended for the alteration of stucture, on organizational structure is justified. It will be important to know how to enjoy the benefits of an innovation while avoiding its possible undesirable effects on the organizational structure, if not on anything else. It will also be important to know how to use an innovation to bring about structural changes even if it is not initially meant for such changes.

It must be pointed out that no innovation, other than those indended to change organizational structure, will necessarily influence the structure automatically. Such an influence may only come about if the participants', particularly the more influential ones, feel a modification or change of some structural characteristics of the organization is necessary. Though only unconsciously, they may embark upon such a change in response to a requirement of the innovation, or to cope with the threats they think the change can pose to them.

In the analysis of the Organizational actors' influence, it was found that hardly any one involved person could have impacted

on the Innovation noticeably without holding a high office. In other words, it was mainly the positional power of those persons that permitted them to wield influence. Therefore, the influence of two office holders, who were more involved in the DLS, was examined. It appeared that the educational background and experience of one and the risk-taking and endurance of the other had some bearing on the Initiation and Implementation Phases of the Programme respectively.

Despite this finding, the consideration of other influence processes, such as displayed by the contextual elements, indicated that the influences of those individual variables were neither so straightforward nor so substantial. Previous research (e.g. Baldridge and Burnham, 1975; Kimberly and Evanisco, 1981) also found that individual variables were poor determinants of innovation. In view of the complexity of a strategic organizational innovation, in which several groups of individuals are normally involved, one should not be surprised to find no specific individuals bearing directly on the innovation.

It is obvious that saying that individual office-holders barely influence a strategic innovation directly does not mean that they do not influence it by affecting the innovation situation and/or the organizational climate that can foster or hinder the innovation. Indeed, as was noted (Chs.15 & 16), the adminis-trators' roles were significant in creating and changing the Organizational culture and system, which affected the

Innovation.

However, there are at least two cases in which individuals within the focal organization may impact on an innovation directly. The first is when the innovation involved is reflexive; internally oriented. Remember that the DLS, Baldridge and Burnham's complex, and Kimberly and Evanisco's technical innovations were transitive; externally oriented. An internally oriented innovation however is likely to be more susceptible to individuals' influences than it is to other influence processes. The second is when the person involved is an innovation champion. Irrespective of the nature of the innovation, if one or a few individuals have devoted themselves to the innovation, individual variables may be significant in determining the innovation.

The impacts of three cultures were analysed. These cultures emerged as the University developed. According to our findings the power culture dominated the University in its early formation stage, hindering any attempt at innovation. The task culture that superseded it set the stage for both the implementation of the CS and the initiation, as well as legitimation of the DLS. However the last culture, the role culture, facilitated the execution of the CS while impeding the implementation of the DLS.

The contradictory impacts of this culture on the same stage of the two Systems imply that the hypothesis that increased

formalization can facilitate innovation (Shepard, 1967; Duncan, 1976) may need to be qualified. Both the CS and the DLS were technical. As such, the implementation of both should have been streamlined equally if technicality were to determine the type of a relationship between an innovation and a culture and/or a system. It seems that it helps little to relate that hypothesis to what is called technical innovation. It appears more meaningful to relate it to the degree an innovation is planned, supported, and is slack. The CS was relatively well-developed and packaged, it was more slack than stress, and it was much more compatible with the participants' beliefs, values, and norms. The DLS fell short of those qualities; even in its implementation stage, it still called for a lot of personal attention on the part of the individuals involved, a requirement that could have hardly been met in the formal and conflict-ridden climate created by the role culture.

In the assessment of the influence of group processes on the Innovation, it was noted that quite a few of the hypotheses advanced by Butler (1981), reviewed in 6.5, were true in relation to the CS insomuch as they were relevant to the stages examined. However, these hypotheses were barely supported in the case of the DLS. For example, according to Butler, risk-taking may not be required by a group in implementing an innovation, it can afford to be less cohesive than it was in the adoption stage, and its communication pattern can be wheel-shaped in this stage. According to this study however, the DLS needed a highly cohesive risk-taking group with an

all-channel communication network to be implemented.

One explanation for the contradictoriness of our finding and Butler's hypotheses, is that which was said to have made the role culture ineffective in implementing the Programme. Although Butler did not relate his hypotheses to any particular type of innovation, it appears as if they were related to slack, well-packaged innovations, compatible with the decision-makers' beliefs, etc. However, a stress innovation, for the implementation of which there are hardly sufficient resources, may require a high propensity for risk-taking on the part of its implementers. In a cohesive group in which there are one or two risk-takers and each member receives psychological support from all the others, as was the case in the Advisory Committee, the group will be more prone to risk-taking. However, a cohesive group is less likely to maintain its cohesiveness without a good deal of inter-personal communication. Given this observation, it can be concluded that a cohesive group with an all-channel communication network and a high propensity for risk-taking is more likely to be successful in implementing an innovation with the attributes of the DLS.

In the analysis of the effects of the environments (Ch.17), the impacts on the Programme of the general and specific contexts of the University were considered. The contradictory effects of the general context were noted. It was found that whereas the environmental demands called on the University to innovate,

the improving socioeconomic conditions lured the human resources of the organization away from it. This state of affairs constrained the progress of Innovation because the University needed its existing personnel to pursue the undertaking.

The roles both of the students and external Policy-makers were reviewed. The consistent momentum the DL students gave to the Programme was emphasized. However, the impact of the Policy-makers on the undertaking was not so consistent. They favoured it initially when they were under students' pressure and they assumed the Programme could meet their expectations, but tended not to favour it when the pressure was mostly shifted to the University and they realized their assumptions about the Programme were unfounded.

Moreover, the Policy-makers impacted on the Programme indirectly. They did so by imposing not only a lot of rules and procedures but the tenure and the overtime schemes. The schemes created a state of Organizational inequity in the Innovation situation. Having perceived the situation as inequitable, the people who were involved in the management of the Innovation, became frustrated. A few of them resigned and one or two of them tended to reduce their involvement in the Programme so as to be able to spend their time in such a way that they could benefit from the schemes. Consequently, the Innovation suffered greatly, although the strong pressure that there was for its implementation kept it in motion.

In this study, inequity in the Organization derived mainly from external factors, but it is obvious that inequity does not result only from those factors. Similar schemes may always be developed internally. Besides, an innovation itself may cause such a situation. If inequity, as viewed by the persons affected, is seen as more than simply an unjust distribution of financial incentives and is seen also as an unfair distribution of power, perstige, influence, etc., then an innovation that can give a person or a sub-unit an edge over others can be a source of inequity. That situation can affect an attempt at innovation adversely. Hence, it can be concluded that the more inequitable an innovation situation is perceived to be by the individual(s) involved, the less successful the attempt at innovation may be.

However, it is also likely that an innovation is introduced so that organizational inequity is removed. For example, the tenure and the overtime schemes, which were innovations in their own right, might have been replaced by systems that could improve the situation. If such should be the case, one can expect the innovation to receive wider approval. Looking at it from the point of view of adoptability, it can be suggested that an innovation that can remove organizational inequity is more likely to be readily adopted. This proposition further implies that the introduction of an innovation in such a manner as to avoid any organizational rift, e.g. such as may be caused by an inequitable situation, is more likely to be readily

internalized.

A point that is in order has to do with the participants who judge an innovation situation to be inequitable in relation to themselves. This situation can be created by such things as, for example, the key office holders' own mistaken policies. External rules which may be imposed in order to remove a possible organizational inequity, which might not have been perceived as such by the higher echelons, may also create feelings of inequity. For example, legislation may require a gap between different pay levels to be narrowed considerably.

In cases like the above, the managers or administrators involved in an innovation situation may perceive the situation as inequitable. They might have believed that they were expending more efforts than the lower echelons already, yet they might not have demanded any compensation for that extra effort. They probably took the pay gap as the compensation for expending more effort. However, once the legislation is enforced and the gap begins to narrow down, they may start to perceive the situation as inequitable. Although some intrinsic rewards may keep them going, they may reduce their efforts if there is no extrinsic reward at all.

In view of the above example, it can be concluded that if an innovation situation is perceived to be inequitable by the innovation decision-makers in relation to themselves, rather than in relation to others, they are more likely to resist the

innovation or abandon their job, as was the case in the Innovation situation in the University. Also, an innovation that can remove inequitable treatment of decision-makers, rather than serve the interests of others, is more likely to be adopted, although its implementation may be problematic if those others are required to undertake it.

Besides the above, our analysis of the influence of the environment implied that regarding the possibility of strategic choice and organizational ecology as an either/or dichotomy can be misleading. It was found that although the environmental contingencies set some limits as to the choice of an alternative, the administrators could still choose from among the options that were available. They made the choice that they thought was the most logical in that situation. However, the retention of their choice seemed beyond their power. The Innovation could have survived only if it had responded to the demands of the circumstances. Given this observation, it can be concluded that choice and evolution are complementary and not contradictory. Choice is a possibility in the creation or initiation phase and evolution is a characteristics of the retention or implementation phase.

The above finding, i.e. that administrators can choose from some alternative courses of action in the initiation phase but are constrained by the contextual forces in the implementation phase, can explain why different individual variables may stand out in an innovation, or at least in, a transitive innovation

process. Administrators and managers are more likely to make a well-thought out, intelligent choice if they are well-educated and highly experienced.   However, if they have a very low propensity for risk-taking and uncertainty, education and experience alone may not help them much when they have to undertake the implementation of their choice.

In the implementation phase, when their control vis-a-vis the influence of contextual forces over the choice is reduced, they are very likely to see the undertaking as risky if not uncertain.   Although the contextual elements may not even threaten the undertaking overtly, the incumbents' loss of control over the situation can be a source of uncertainty for them.   An absorbtion of that perceived risk and uncertainty will need to be accommodated by at least a proportionate propensity for risk-taking.   Therefore, it can be concluded that education and experience are important in the initiation phase, but risk-taking is also required in the implementation phase, as was noted in Ch.14.

This does not mean that risk-taking and the other two characteristics are unnecessary in either the initiation or implementation phase. We are not even alluding to the possible undesirable consequences for those phases of a combination of high propensity for risk-taking as well as high qualifications and much experience.   What we are saying is that those qualities appear to be the prominent requirements of each one of the phases.

Saying that contextual forces tend to constrain the leading participants, particularly in the implementation phase, does not mean that administrators and managers can not do or do not do anything about handling the sources of those constraints. The administrators in Ensani felt they were unable to do anything about several of the elements in the general environment. However, they tried to deal one way or the other with the other elements. We do not repeat what they did exactly. Nevertheless, it is worth mentioning that an underpinning of what they did was salesmanship.

Sayles (1964) and some others (for a review, see, Hales, 1986) have identified innovation as one of managers' activities and roles. However, these authors' conceptualization of managers' activities and roles as 'participation in external work-flows via relationships', 'disseminator', and 'negotiator' come closer to what we called salesmanship. To induce the formal and informal legitimizers or major gatekeeper, as Zaltman et al., (1973) might call them, to accept the Innovation and/or cooperate in implementing it, the administrators had to sell the idea of the Innovation in the Initiation Phase. In the next Phase, they had to sell the bits and pieces which would combine to constitute the reality of the Innovation set. Given this observation, it can be said that the more skilful managers and administrators are in selling an innovation, the more smooth its process can be.

There were also times when the ideas and suggestions advanced by the administrators were accepted without much salesmanship on their part. Not all the formal and informal legitimizers had the time or expertise to attend to all those matters that concerned them relative to the Innovation. Therefore, they sometimes took at face value the administrators' explanation of the matters that needed a decision or a reaction from them. As the case demonstrated, the legitimizers accepted the administrators' words when the latter were regarded as very credible. They tended to reject some of their suggestions when the administrators' credibility with them was lowered. This indicates that the more credible managers are, the more likely they are to gain support for an innovation.

Thus far, we have been concerned mostly with non-innovation determinants of innovation. However, as we have observed, attributes of the innovation itself can contribute to its success or failure as well. In this case it appears as if the incompatibility of the Programme with the Policy-makers' beliefs, values, and norms were the sole impediment to its progress. However, a closer look at the blueprint of the Programme prompts one to be cautious about such a conclusion. There was evidence to suggest that had the blueprint been very clear, brief, more rigorously compiled, and better bound, it could have given the Policy-makers a realistic feel for the proposals when they had first received it. Had it been viewed realistically, it would be easier to decide the degree to which the compatibility of the Innovation with their values and

beliefs had determined it.

Based on this observation, it can be concluded that such things as clarity, rigour, length, printing quality, binding, and graphicality of an innovation blueprint can provide it with a better chance to be realistically considered by the people involved, or to be involved. And the more realistically it is considered, the compatibility of the innovation with those people's beliefs, values, and norms may or may not emerge as true determinants of the undertaking.

CHAPTER NINETEEN

Implications for Practice

In view of the fact that the following implications are derived from a study that has to do with a particular setting, it may at first be presumed that they are not applicable to other contexts. However, considering the multi-faceted nature of such settings, to which we have alluded earlier, and the fact that some aspects of the case which were exceptionally context and issue specific are excluded, it is believed that they can still be relevant to the management of innovation in other contexts. Before we proceed, it should also be pointed out that because the political aspects of innovation were beyond the scope of this study, such implications of innovation are not treated here. Nonetheless, it should be born in mind that every innovation is potentially political, as indicated in the DLS Process above. Therefore, such implications of innovations should be sought in relevant studies.

Some of the implications of the study, covered in the previous chapter, can be just as relevant for practice as they may be for theory. Our present suggestions will cover neither those nor a catalogue of 'do's' and 'do-not's'. We will concern ourselves only with a few simple broad managerial implications of the study. We will examine briefly the choice of an innovation policy, a way of dealing with formal and informal legitimizers, or gatekeepers, over an innovation, and minimum

requirements for a team managing the innovation. We regard as formal legitimizers, gatekeepers, or stakeholders, all legislative and higher regulatory bodies, i.e. government, stockholders, head-office, that have formal authority to accept or reject an innovation. The general public; customers/ clients; middle-level managers, department heads, and faculty deans vis-a-vis higher decision-maker; pressure and interest groups, etc. are seen as informal legitimizers, gate-keepers of, or stakeholders, in the relevant innovations.

In an attempt to offer a framework for a study of innovation, Shrivastava and Souder (1987) came up with three models which they collectively referred to as "technology transfer models". They called these specifically "stage-dominant (SD), process-dominant (PD) and task-dominant (TD)" models. Seeing innovation as contingent upon such things as environments, internal organizational climate and culture(s), these authors argued that there may not be a one-best-way to manage innovation in all situations. They indicated that to the extent that organizational groups are more or less formally organized, more or less functionally specialized and to the degree that the innovation process is defined in terms of the participants' reponsibilities or interactions, either an SD or a PD policy may be effective in handling a focal innovation. They maintained, however, that where the individuals are more concerned with the overall innovation itself, rather than its stages or its process, and talk in terms of end products and outputs as well as task goals rather than functional

achievements, a TD model may represent the most appropriate course of action.

Although these models are very interesting for assessment purposes, they ignore the likelihood that an innovation situation may not remain the same until the innovation has been institutionalized. Where innovation requires a long time, e.g. more than two or three years, to be institutionalized, some of the organizational and/or environmental variables may change. The least that can happen is a change in the incumbents, an event that can lead to some changes in the organization. Indeed, having studied the life histories of more than 100 innovations, Yin (1981) came close to believing that a change in key personnel is inevitable in the processes of innovations. Besides, more than one of these models may be appropriate for managing an innovation, particularly as it moves from general to specific even if eveything else remained constant. Indeed, as far as the CS, in our case, was concerned, two strategies compatible with TD and SD models were effective in its initiation and implementation phases respectively.

Considering the above, it seems fair to say that deciding on an innovation strategy a priori can be problematic. Even then, a knowledge of these strategies can provide practitioners with a wider choice as to a possible course of action. They may be able to shift from one policy to another should a need for such changes arise in the course of the innovation they are undertaking. No less important is the knowledge of innovation

relative to the situation. Few attributes may be inherent in a focal innovation; they may only surface if the innovation is seen in relation to the adopting unit. Hence, whether innovation is "slack" or "stress" depends on whether the organization has sufficient resources or has the capability to raise enough resources from outside for the undertaking.

However, the inherent characteristic(s) of an innovation as well as situational factors may suggest which strategy or strategies can better accommodate it at one time or another. For example, holding everything constant, a well-defined, well-developed innovation containing all the components of the innovation, or in other words a coherent innovation set or package, may be most effectively implemented by following the SD model.

It would be ideal if innovation practitioners could choose from a range of alternative policies in the process of innovation. Given the duration of an innovation and other constraints, alternation seems next to impossible. It is unrealistic to expect leading persons to have so much time and energy to define every thing impeccably, marshalling them properly to attain their desired outcomes. Not only are these individuals, like anybody else, fallible, but not every thing is under their control. Moreover, a change of policy can lead to a change in the organizational culture, system, or structure. If quick changes in those organizational characteristics are feasible, they may lead to a loss of identity on the part of the

organization, or such turbulence that it may bring about the degeneration of the innovating unit.

To avoid these difficulties practitioners can go for an organismic system (Burns and Stalker, 1961). There need not be worries about an adverse effect of that system on, say, the implementation phase of the innovation, although some studies (see Ch.6) have indicated that in the implementation phase, a mechanistic system may better accomodate the innovation. Even if this were a universal maxim, the flexibility of the organic system can allow the innovation to proceed in a mechanistic system that is very likely to emerge as a spin-off from the prevailing system. This can happen because, as some studies (e.g. Woodward, 1965) suggest, the technical requirements of the execution stage can push the innovating organization into a role-type mechanistic sub-system if the system had not qualified as such already.

If practitioners insist on retaining the organization in an innovative mood, they should be on their guard against letting this spin-off sub-system from taking over. It is very likely that the mechanistic system will persist if it proves effective relative to managing an organizational process or a stage/ sub-process of an innovation, however transitory that system might have been originally intended to be.

Whether they adhere to varied systems or just one, and whether they adopt one or more innovation strategies, i.e. SD, PD, or

TD, to deal with one innovation in its life cycle, practitioners can ill afford not to treat it as a process. This may be called an "attentional process". Needless to say, if an attempt at innovation is to succeed, it should be subjected to constant evaluation so that corrective action can be taken where and when needed. Evaluation and the accommodation of the innovation also requires constant commitment by those involved. However, none of these requirements, i.e., evaluation, resources, commitment, may be met without the stakeholders' constant favourable attention to the undertaking.

Once the formal stakeholder, i.e. formal legitimizers, or gatekeepers in the highest position of authority, who can accredit or otherwise veto a change, have approved this, and others, such as consultants or executives, are involved in carrying it out, their attention may be diverted to other issues. They may become complacent about the undertaking, get busily preoccupied with other issues, or become disenchanted with it upon finding its implications incompatible with their initial assumptions. Therefore, they may not support the undertaking after they have passed the buck.

Whatever the root cause of the legitimizers' lack of sufficient attention to the innovation, it is clear that inattention can be a serious threat to innovations. It must also be obvious how important it is for the innovators to keep the said persons' eyes on the innovation constantly.

After winning the legitimation of an innovation, which appears to be well-developed and packaged and to contain all that it requires to be implemented, practitioners may feel that they do not have to do much to keep the gatekeepers attentive to that. They may also feel the same way even if the innovation is not so well-packaged but the gatekeepers have always accepted the practitioners' suggestions because they have regarded the latter as both credible and reliable. Even in these cases, the legitimizers' sustained attention to the undertaking can not be dispensed with. Not only may the opponents of the practitioners' and/or of the innovation make the gatekeepers disenchanted with the innovation, but new developments or events in the environment may call for modifications in the innovation also. These events can prompt the gatekeepers to intervene when their intervention is not required and not to intervene when this is expected from them. Such misplaced intervention and lack of intervention will be inevitable unless the said persons are constantly kept aware of the latest issues surrounding the innovation .

Where the legitimized innovation is well-developed and/or the practitioners are regarded as highly credible, the latter can get the legitimizers informed of the issues surrounding the undertaking simply through regular, succinct reports, and some personal contacts. However, they should bear in mind not to magnify the problems if and when they come about. Dramatization of the problems at the expense of any degree of success, that might have been achieved in pushing the innova-

tion ahead, should be strictly avoided.

The practitioners may magnify the problems in order to gain more credit when they have solved them, in order only to move the legitimizers to take their demands seriously, or to hasten them to do something. However, the magnification of the problems can only meet with the gatekeepers' unsympathetic response. They may attribute the problems to the practitioners incompetence. They may think that the reality of the undertaking was hidden from them in the first place or that the innovation is so problem-ridden that it is not worth their attending to it anymore. The dramatization of problems can be likened to exaggeration by a patient of his illness. If he can convince his doctor fully that he is dying of his illness, the doctor may advise him to pray rather than doing anything for his health! By the same token, if the practitioners manage to present the gatekeepers with a problem-ridden innovation, the former may only be persuaded to pray for it. If mention of problems is necessary for winning or enhancing the legitimizers' commitment by keeping the innovation under thier noses, they should be reported realistically together with successes.

Saying that problems should not be exaggerated should not be interpreted as saying that success can be exaggerated. This must certainly be avoided, not only on the grounds that lying and exaggeration are not good morally, but also for pragmatic reasons. The best of planned innovations in the hands of the

most credible and competent managers may run into serious unpredictable problems. If success has been exaggerated, a report of such problems may adversely affect the credibility of the practitioners. The legitimizers may think that those individuals' previous reports of success were just a cover up for their inability to pre-plan for the innovation competently.

Brief progress reports, formal or informal, written or oral, should not be used as a vehicle for supporting some people at the expense of others. It is the case that an innovation process normally turns to the previous policies. Because several of the old policies may be found troublesome in the present innovation situation, people who made those policy decisions can be easily blamed. It should be remembered that decisions are usually made in the absence of full information about present and future events. They are made without a knowledge of their conseqences. Hence far too many decisions, with the best of intentions, can be found to be mistaken later. Therefore, there is always some room for scapegoating others. However, rather than blaming anyone for the problems, the reports should ascribe these to situational developments and the requirements of the improvement of the innovation as they emerge and are discovered.

Moreover, whereas the problems can be ascribed to the efforts geared to the improvement of the innovation, success can be related to the legitimizers' initial approval of the undertaking and the organizational actors who have been

directly involved in its execution. If the practitioners try to get all the credit for the success, they may only alienate the other actors who have been involved. They may also fail to make the legitimizers more attentive to the innovation. However, if the formal gatekeepers are given the impression that they were party to the initial success of the innovation, they are more likely to attend to it so that they may also be party to the further success of the undertaking.

The above strategy may suffice to attract certain formal stakeholders' attention to a focal innovation where this is well-developed and planned and/or the practitioners are highly credible. However, besides that strategy, other measures may be required to attract those gatekeepers' attention to less-developed and planned innovations by either very credible or less credible practitioners.

Lobbying the gatekeepers and also winning an influential opinion leader's support for the innovation can prompt several other higher decision-makers to attend to the innovation continually and even favourably. Moreover, practitioners should not ignore the influence of the beneficiaries and proponents of the innovation, who may be neither the members of the formal legitimizing groups, e.g. stockholders, external policy-makers, etc., nor the members of the organization involved. The beneficiaries and proponents, whom we called the informal legitimizers or gatekeepers, of the innovation are broadly taken to include members of the larger society. They

may be used to bring pressure to bear on the unyielding formal legitimizers and gatekeeper. This, of course, means, as we have noted earlier, that the innovation should be responsive to the demands of the informal legitimizers.

Should the above condition hold, the practitioners can diffuse the innovation to the said people through the mass media or whatever means that is available to them. By maintaining their contact with the general public, or more specifically with the interested actors, and by letting those persons share with them in the problems and successes that relate to the innovation, they may manage to get them involved in the undertaking. Once they are involved and clearly briefed about who is responsible for what, the practitioners may be able to deploy a large number of sympathizers to do what they can to have even the least interested formal legitimizers' focus on the innovation. They may also be able to contain the possible opponents' resistance to the undertaking. The formal decision-makers may become not only attentive, but also involved and committed, so much so that they may approve of the requirements of the innovation where and when needed. An instance of the effect of the mobilization of such proponents of the Programme was explained in this study. The Policy-makers who never wanted to attend to the innovation seriously did so and approved of something promptly that they had never wanted. They responded positively to the setting up of four educational centres after some students and social and political actors got to know the problems and pursued the matter relentlessly.

Our own personal experiences indicate that informal gatekeepers of innovations are indeed very significant forces in the promotion of such undertakings. Once an individual or group lets people know that they have come up with a cure for a disease, the general public normally brings pressure to bear on those institutions and agencies whose resources and possibilities can make for the effective introduction of the cure. The pressure on the auto manufacturers to introduce some safety measures came from the general public, to whom the types of changes which could make automobiles safer were diffused.

Although this author regards the cure and automobile safety measures as much social innovation as any other innovation, for people who, in the light of their obsession with technical innovation, may see these as merely technical, other examples can be provided to show that informal gatekeepers have a great influence on social innovations as well. If, for the sake of argument, some revolutions are regarded as major social innovations, then the Revolutions in Cuba and in Iran exemplify the influence such gatekeepers can have on social innovations. Once the individuals in the formal positions of authority declined to legitimize the changes those peoples sought, the latter rose to do so themselves even at the expense of the formal gatekeepers.

Considering the influence that informal legitimizers of an innovation can have on the formal ones, the practitioners may

sometimes have to slow down their innovation-related activities to mobilize those persons if they had not done so already.

We have so far set a few simple and broad guidelines concerning the management of innovation. We shall now turn to a few simple and broad points concerning the top management team. The practitioners' use of some close assistants, whether formal or informal, seems inevitable. Apart from other reasons, no one person may have all the personality traits and other characteristics that are required for the management of complex organizations and innovations in such settings.

Because the requirements of the same innovation may differ in different stages and because various innovations may have their own demands, it is very important that the members of a management team have varied skills and characteristics. Needless to say, if the leading members have varied skills and characteristics, they may be better able to deal with different aspects of an innovation. The innovation situation may be even better handled if a few of the assistants are "cosmopolitans" and perform some "boundary scanning" activities whereby external information and new ideas, that can bear on the innovation, are brought to the management team. However, "cosmopolitanism" can have some undersirable consequences as well. It has been noted (Gouldner, 1957) that "cosmopolitans" may be committed more to their professional associations outside, than to their own organizations. However, the aides should have the commitment of "locals". If therefore

practitioners can not find cosmopolitan aides committed to the organization, they can use the uncommitted only as advisors while appointing the locals to administrative or managerial positions.

Commitment of the aides is only a necessary but not a sufficient general quality required of them. They have to be loyal to the leader as well, at least as long as he himself is loyal to the organization. This implies that the management team should have a unity of purpose when it comes to the sustained survival and effectiveness of the organization, in whatever way they define these. Diverse skills, loyality and unity of purpose may eventually enable the management team to choose the right course of action with respect to one or more innovations.

Having pointed to a few requirements of management teams, it should be indicated that if top leaders succeed in gathering such aides around themselves, they should make every effort to avoid the replacement of any of the members before one innovation has completed its course. We have demonstrated some of the consequences of the loss or replacement of the Organizational office holders. The least one can say about the possible detrimental effect(s) of such an event in the process of an innovation is that it can cause a shift in the existing values, norms, or attitudes. This in turn may bring about a shift in organizational priorities. Needless to say, a change in the initial organizational priorities that, among others,

reflected the management team members' attitude towards an innovation, may become a source of conflict. This can prolong the innovation process.

This is not to say any conflict is bad, or that conflicts should be avoided at any cost. Indeed, it is doubtful whether a management team, even if its members are fully loyal to their leaders and committed to their organization, can remain fully conflict free over the long period which an attempt at strategic innovation may require. Practitioners should be prepared to deal with conflicts while, at the same time, avoiding, at least, the kind of conflicts that can result from totally irreconcilable beliefs, norms, values, and attitudes which replaced assistants can bring to the management team.

CHAPTER TWENTY

<u>Research Agenda</u>

Apart from any contribution a piece of research may make to a subject within the boundary of a discipline, it may also either raise some new questions or show that the old answers to some previous questions need to be tackled again. This study is no exception. Indeed, more questions have been raised than answered.

In the analysis and the theoretical implications of this research, some propositions emerged that require further attention and testing. Some of those and a few other issues, that also beg further attention, are indicated in the following questions:

<u>On the Essence of Innovation</u>

-What is the relationship between organizational effectiveness and innovation?

-Is innovation not just another rubric for organizational effectiveness?

-Can innovation be anything other than a process?

-If it cannot be anything but a process, can it be broken down at all? Can the stages, sub-processes, or whatever the elements may be called, be universal?

<u>On the Differentiation of Innovations</u>

-If conceptualizing innovation as either a technical artifact and idea, or research-based knowledge, were justified, in what way(s) would the innovations falling within each broad category differ from each other apart from having different

manifestations?

-Could they differ in precipitating different processes? If so, where might the different processes be different? In the producer's system, in the user's system, or both? Can the processes be the same if both the producer and the user are the same?

-If it is found that the processes of the two types of innovations are different, what can it be related to? To the innovations, or to the adopters? In other words, is it possible for the process of one type of innovation to be the same as the process of the other in one organization and different in another organization?

On the Relationship between Organizational Evolution and Innovation

-If organizations evolve, or develop, how might each stage of development of the organization affect innovation?

-Is/are there any similarities between the stages of development of organization and innovation process?

On the Relationship between the Group Variables as well as Equity and Innovation

-How might group dynamics affect the overall organizational innovation behaviour?

-How might those processes affect a focal innovation?

-What is the relationship, if any, between organizational equity and innovation?

-Even if innovation itself does not affect organizational equity, could it still be affected by the extent of (in)equity that exists in the organization?

On the Management of Innovation

-If managers should act as an innovation broker, what is involved in this job?

-In what way(s) do managers' roles as innovation brokers differ from innovation consultants?

-Is there any relationship between managerial succession and the overall innovation behaviour of organizations?

-How might the process of a focal innovation hinge upon the succession of the office-holders involved?

-What are the moral issues involved in the management of innovation?

On the Relationship between Theory and Practice

-To what extent can practitioners use pre-defined policies in dealing with innovation?

-In what way(s) may a knowledge of the above assist the management of innovation?

-How can the relevant knowledge be most effectively disseminated to the practitioners?

Appendices

APPENDIX A

Some Definitions of Innovation

Thompson, 1965: 2	Generation, acceptance, and implementation of new ideas, processes, products, and services
Wilson, 1967: 196	An innovation (or, more precisely, a major innovation, ...) is a "fundamental" change in a "significant" number of tasks
Becker and Whisler, 1967: 463	The first or early use of an idea by one of a set of organizations with similar goals
Knight, 1967: 478	An innovation is the adoption of a change which is new to an organization and to the relevant environment
Evan & Black, 1967: 519	The implementation of new procedures or ideas whether a product of invention or discovery, will be referred to as "innovation"
Shepard, 1967: 470	When an organization learns to do something it did not do before and it proceeds to do it in a sustained way a process of innova- has occured.
Mohr, 1969: 112	The successful introduction into an applied situation of means or ends that are new to the situation
Rogers with Shoemaker, 1971: 19	An innovation is an idea, practice, or object perceived as new by an individual. It matters little, as far as human behavior is concerned, whether or not an idea is 'objectively' new as measured by the lapse of time since its first use or discovery ... if the idea seems new and different to the individual, it is an innovation.
Zaltman et al. 1973: 10	An innovation [is] an idea, practice, or material artifact perceived to be new by the relevant unit of adoption

Rowe & Boise, 1973: 6	The successful utilization of processes, programs, or products which are new to an organization and which are introduced as a result of decisions made within that organization
Yin et al. 1977: 44	...innovation includes any discrete idea, practice, or material artifact that is introduced for the first time...and is seemingly discontinuous with past practice. The term technological innovation, moreover, refers to those innovations that consist of (1) an artifact or material; (2) a computer system; or (3) an analytic idea or practice that lends itself to quantitative symbolization*
Down & Mohr, 1979: 385	...innovation [is defined] as the earliness or extent of use by a given organization of a given new idea, where "new" means only new to the adopting agent, and not necessarily to the world in general (cf. Rogers and Shoemaker, 1971;19; Mohr, 1969: 114)
Kimberly, 1981: 86	A managerial innovation is any program, product, or technique which represents a significant departure from the state of the art of management at the time it first appears and which affects the nature, location, quality, or quantity of information that is available in the decision-making progress
Kanter, 1985: 20-21	Innovation refers to the process of bringing any new problem-solving idea into use. Ideas for reorganizing, cutting costs, putting new budgeting systems, improving communication, or assembling products in teams are also innovations. Innovation is the generation, acceptance, and implementation of new ideas, processes, products or services. It can thus occur in any part of a corporation, and it can involve creative use as well as original invention
Delbecq & Mills, 1985: 25	Innovation is a significant change within the organization or its line of services or products that (a) re-

quires a substantial adjustment, and
(b) is successfully introduced into
the organization. As such it dif-
fers from "incremental change" (in-
volving minimal disruption, usually
within current tradition) and "in-
vention" (which might not become in-
stitutionalized).

Van De Ven, 1986:   591   The process of innovation is defined
as the development and implemen-
tation of new ideas by people who
over time engage in transactions
with others within an institutional
context

*The definition carries on thus: "Technological innovations
consisting of artifacts or materials have been termed hardware
innovations. Innovations that are ideas or practices are
called data analysis innovations and include such items as
algorithems for ambulance dispatch, and the optimum location of
fire stations. ... at the same time, computer systems have
been categorized as a third general type of innovation, both
because they have commonly been regarded as a special family of
innovation, and because they typically involve both hardware
and software components (Kraemer et al., 1974)."

APPENDIX B.

Methodological Note

On the Method of the Study

How does innovation unfold before it is routinized? How do individuals, organizational culture and group dynamics, and environment affect innovation as it unfolds? If these questions, which this study intends to answer, are qualified a little, it will be clear which may be a more appropriate method to use for a research of this nature.

As for the first question, it is obvious that it is concerned with the process of innovation. As regards the second question, it is necessary to clarify which aspect of innovation it is to which the foregoing elements are being related. In other words, it should be stated whether one is concerned, for example, with the relationship between the organizational dominant culture and one or another of the stages of innovation. In fact, attempts at generalizing about the relationship between the innovation process and its possible determinants on the basis of findings concerning the relationship between some of those elements and only one stage of the process can account for the inconsistencies in a number of research findings, as is noted in Chapter One and can be seen in some detail elsewhere (e.g. Downs and Mohr, 1976, 1979). As far as this study is concerned, it focuses on the relationship between the above elements and all the stages

400

involved, because it is concerned with the whole process of an innovation.

A point that has been observed about the process of innovation is that it, like some other organizational processes, is a sequence of explicit or implicit decisions (Janis and Mann, 1977). As the process unfolds, individuals and/or groups are almost invariably led to choose among possible alternatives based on value preferences or utility functions. A typical innovation process is likely to illustrate more or less serendipitous combinations of problems and solution opportunities. While some decisions are probably more crucial than others in shaping eventual outcomes, it is difficult to claim that any one decision is really critical (Tornatzky et al., 1983).

Seeing innovation as a sequence of decision-making situations suggests that at least one of the two ensuing methodologies can be appropriate for a study of such a process. One is Hunter's (1953) reputational method, in which knowledgeable community members are asked to name the major power holders in the community and the roles of these persons are investigated with regard to community decisions. The other approach is Dahl's (1961) decision making method, in which the individuals involved in making decisions are viewed as influential people. Hunter, a sociologist, based his method on the assumption that decision power is concentrated in an elite; that is, one group of people have a relatively unrestrained amount of power and make or influence the outcome of community decisions. The

emphasis of this method is upon studying the elite. Dahl, a political scientist, views the power to make decisions as situational and diffuse; that is, different groups and individuals may be involved in any given decision.

For this study, the decision-making method is adopted for two reasons. First, the study intends to focus upon the Innovation process which, as was pointed out earlier, represents a sequence of decisions. It is not concerned so much with discovering the individuals with most power in decision-making as it is with an understanding of the Innovation (the rationale, the stages) and the behaviour of some of the influence processes in different situations. Second, the reputational method relies upon survey research while the decision-making method utilizes the case study.

Appropriateness of process research, which is associated with case study method, for an analysis of innovation has been emphasized. Rogers (1983) quoting Mohr (1978) distinguished between variance and process research. He asserted that studies which are designed to verify whether there are stages in the process of innovation or not need to be different from the study of independent variables associated with the dependent variable of innovativeness. He explained variance research as using highly structured data gathering and quantitative analysis of cross-sectional data, such as comes from one-shot surveys. Rogers then indicated that because only one point in time is represented in the data, variance in a

dependent variable is related to the variance in a set of independent variables. As such, variance research can not move back in time to bring to light the first event, the next, and so on, and how each of these events affected the next. Hence one needs a diachronic perspective to explain the causes and sequence of a series of events over time, a data gathering method that is less structured and depends more upon qualitative data; a process analysis.

Finally, if it is accepted that innovation is a learning process and longitudinal in nature (Tornatzky et al., 1983), then one is left with a limited choice of methodologies for an analysis of an innovation process; a case study over time presents itself as an appropriate option. Given that the case study method is appropriate for a process research, this study, which exemplifies such a research, adopts the said method.

Having identified our study method, it should be mentioned that the data that were gathered were based more on participant observation than archival data, interviews, etc. This approach has the advantage of allowing the researcher to obtain a feeling for the environment being studied. The researcher can immerse himself in a culture and learn the life and language of the people living in it. He can explore ongoing processes as well as outcomes.

Despite all the opportunities that this approach offers for an in-depth analysis of the dynamic character of innovation over

time, it certainly has some disadvantages as well. The researcher may find himself in the very difficult situation of having to make sense of the huge amount of data he is most likely to have gathered. This problem was confronted in this research although having to be selective and certain considerations (see below) alleviated it to some extent. This may not be so serious to some researchers, there are still other problems that one should be careful about.

What is found through a case study may not be typical or generalizable; that is, every research setting is different from every other. Therefore, whatever is found in one setting is not necessarily applicable to any other. Hence, the approach is not a vehicle for discovering universal truth, which may be a claim of the social sciences. An added liability of a case study, that depends more on observation, can be associated with the very presence of the analyst in the social setting being studied; people may behave differently in the presence of a reseacher, a phenomenon that has come to be known as the Hawthorne Effect, which initially emerged form Mayo and his associates' study of Hawthorne Plant of the Western Electric Co. (for a treatment of this, see Mayo, 1945).

However, having been personally involved in the Innovation process as a member of the Organization that adopted it, this researcher was in no way considered an analyst as such in the presence of whom behaviours might have been acted out

differently. Although the opportunity to be in contact with the participants familiarized this author with people and places involved, these are disguised for the sake of confidentiality.

Initially the reason for studying that Organization was personal interest in discovering how the members would cope with the mergers and also how they would adapt to the changes necessitated by the Islamic as well as by the Cultural Revolutions, which followed in quick succession during a two year period. This researcher found the opportunity to carry out this study after the initial stage of the formation of the University, Ensani, when he was asked to act as a personal advisor to its first president. But he was involved directly with the Innovation when the then Management Council, comprising the president, vice-presidents, and two other members representing the University student body, sought his more active collaboration as its advisor. This was in 1982, when having felt a need for a new education system, the Council asked him to help with the initiation, implementation, and institutionalization of the system.

During the study, which covered a five year period from 1980 to 1985, he had the opportunity to participate in almost all important meetings which were held on policy matters in Ensani. During the last three years when the University was more concerned with the Innovation, he also attended the meetings of the Ministry for Culture and Higher Education and the Council

for Cultural Revolution in which the issues relevant to the University were discussed. Moreover, he had the chance to talk to a good number of the academic and non-academic staff as well as to the students involved. All this provided him with a wealth of data which were gathered in different ways; notes, reports, personal correspondence, etc.

To cope with the difficulty of dealing amount of data gathered, some very contextually specific data are not reported. Moreover, the sensitivity of the situation would not allow the collection or otherwise the presentation of one or another set of data. These factors have eventually brought the data to a manageable level while, at the same time, affecting a treatment of certain aspects of the Innovation. Hence, although it was found that in the process of the Innovation, organizational political processes also come into the picture, these have only been treated marginally.

Apart from this, the case history is depicted very objectively. Although of course it is doubtful that a high degree of objectivity has been achieved, it was expected that that approach might help to delineate the form of the progression of the Innovation. There are one or two manifestly interpretive sections as well. Interpretations and analyses are reserved for those sections of Part Part 3 in which we have been particularly concerned with the human element. It is however acknowledged that adopting a strictly positivitic approach for exploration or attaining truth within the domain of the social

sciences is problematic, as noted by several social scientists (for a recent brief and yet interesting treatment of this point see, Hughes, 1980).

A point that is in order has to do with the generalizability of the findings of this work, which is a case study conducted in a setting that belongs to a particular sector. Whatever the drawbacks of single-case studies, it is believed they can elucidate factors that may clarify the phenomenon of interest and help in suggesting hypotheses that can be tested and generalized by survey type studies (cf.Glaser and Strauss, 1967). Moreover, care is taken not to focus on the unique aspects of this case so that some degree of generalizability is possible.

On the Framework the of Case Study

In order to see how a focal innovation proceeds before it is institutionalized, or rejected, attention may be focused on the initiation or even pre-initiation stage, because the extent to which a change strategy is planned may determine the stages and/or sub-stages that are most likely to be encountered. These planned stages may then be used for the analysis of the innovation path or trajectory.

This method of pursuing the itinerary of the innovation can be associated with "programmed implementation" which was explained by Berman (1980) in his discussion of two schools of thought

and practice concering the design of implementation strategies.
Since this strategy is characterized by explicit preprogramming
and careful planning, the stages to be involved are available
to the analyst at the outset. However, the model that thus
emerges, like a hypothetical model which may be used for the
analysis of an innovation process, may lead the researcher to
conceive the case in such a manner as it will fit into the
model at hand. Moreover, if the researcher is to rely only on
the information provided by the organizational members,
particularly those directly involved in the innovation, he may
hardly receive a clear picture of the process. Indeed, as
Campbell (1966) noted, respondents may tend to report a
decision-making process that is more rational (defined as using
the most efficient means to reach a desired goal) than in fact
is the case. This type of response bias, although difficult to
trace, can adversely affect the findings.

The other implementation strategy which is discussed by Berman
(1980) is called "adaptive implementation", whereby initial
plans are adapted to unfolding events and decisions. However
irrational this strategy may appear to be, it is very likely to
display the reality of the change or innovation process more
faithfully than the other strategy can. Therefore, unless the
researcher is concerned with testing a hypothetical model or is
constrained by the type of his research methodology, he can
depend on the examination of the events and crucial points in
the life history of the innovation to depict a reliable
paradigm of such a phenomenon.

In fact, even if an innovation is not deliberately set to go through different stages, some crucial points in the itinerary of the innovation will in all likelihood manifest themeselves as stages. These may later be subjected to analysis which, in turn, may throw light on the planning of change (Rich and Zaltman, 1978).

Having distinguished between "programmed" and "adaptive" strategies, it should be indicated that these are not necessarily the same as routine and non-routine innovations in the sense Shepard (1967) used the words. As can be seen in Chapter Two, Shepard's routine change or innovation was called programmed in that it was seen as being built into a focal organization's routine processes. But here by both programmed and adaptive strategies we mean non-routine rather than routine innovation. Of course, a progammed innovation strategy may represent a routine innovation as well. However, it does not follow that programming the implementation of non-routine innovations every time they are to be undertaken makes them routine ones. They are still non-routine if they do not occur regularly and there are no set rules and procedures for preplanning them.

The Innovation whose process is reported was barely deliberately staged, although being a strategic change, it could only proceed in accordance with certain rules and procedures which would impose some stages upon its process. Except for these imposed stages, which could be seen at the outset, others only

emerged in the efforts that were being made to adapt it to un-folding events. Because the Innovation under study represents an "adaptive" implementation strategy, the stages are derived from the observation of the Innovation itinerary. These stages are then used as a framework for structuring and describing the issues and the events that embodied the stages of the Innovation process.

It should be indicated that just as it is almost impossible to identify the exact time when an innovation begins to be initiated or implemented (Schon, 1967), it is almost impossible to say when such a thing is fully institutionalized (Yin, 1981). Indeed, having no distinct beginning or end seems to be the quality of the other sub-process of an innovation. This was what was in fact observed in this case.

The Old and the New DL Systems Used in the University

Open System (Used in Rasaane): The main media of teaching in this system were the national TV. network, video tapes, sound tapes, and self-teaching material. Books, films, tapes and other materials were centrally prepared. Instructors directed the students as to the use of the media, and one instructor was resposible for the students of related subjects.

The instructors and the media as well as a small laboratory and a library were available to the students in the regional and provincial education centres. A laboratory kit and self-teaching materials were issued to the students for home use.

No formal classes were held and students received individual tuition when they attended their respective centres. Each student could take 14 course units each term at the most. End of term examinations were centrally prepared, but were locally administerd by the staff of the centres.

Requirements for entry to the system were a high school diploma, which could be obtained upon the completion of 12 years of elementary and secondary schooling, residence in the vicinity of one of the centres, and success in Rasaane's entrance examination. Passing 140 units successfully in 6

years would lead to a Bachelor's degree in Arts, Sciences, or Para-medicine depending on the course taken.

Correspondence System (Used in Naame): The main media of teaching were lecturers and books. Some sound tapes had been used recently.

Books, which were mailed to the students, were not self-teaching, but based on each section of a book, several tests were made and mailed to the students, who had to take and return them to the respective lecturers during the term. By correcting and returning the tests to the students, their progress was monitered and fed back to them.

Two types of classes were held for the students. Weekend classes were held for the students who had some questions to ask their lecturers. New year and other longer holiday classes were compulsory for all the students. In these classes, the students received lectures on those subjects regarded as more difficult than others. End of term examinations were centrally prepared and administered.

Unless a course was especially designed to cover only 70 units and lead to a college degree called Associate Diploma, the students could read towards a Bachelor's degree only if they had achieved an average grade of 2.5 out of possible 4 upon the completion of the first 70 units taken. Science students in this system were all transferred to the conventional learning

system upon successful completion of 70 units.

Holding a high school diploma, passing the national higher education entrance exams and belonging to an organization that had an agreement with Naame for admission of its employees could make an individual eligible to enter into this system as a student.

New DL System: The main media of instruction were to be lecturers and self-teaching material. Other media were to be used to teach a subject that had to be offered but for which there was a shortage of lecturers.

Classes were to be held in the provincial and regional education centres on weekends as well as on other holidays. Participation in all classes was to be compulsory, unless for good reasons. Compulsoriness of class participation on weekends was to be relaxed as more self-teaching materials would become ready. The subjects to be taught only through self-teaching materials were to be decided upon by the CCR. End of term examinations were to be centrally prepared but locally administered by the staff of the centres.

Students were to read for a Bachelor's degree without interruption unless they had entered a course that was especially designed to cover 70 units and lead to an Associate Diploma. Undergraduate students were divided into two groups; single-phase and double-phase. The first group consisted of

those who had registered only to read towards a Bachelor's degree. The second comprised those who wanted to obtain an Associate Diploma and then, unlike those who only wanted this degree, move to a Bachelor's course. According to the Programme, both groups of Bachelor's students were to be transferred to the CS upon completion of 70 units, but the double-phase students should have achieved an average score of 2.5 out of possible 4 before they were transferred.

Requirements for entry into the new DL system would not be any different from the combined prerequisites for entry into the previous systems, because this was to accomodate the present students of the University first. Requirements for new students were more or less in accord with the general requirements for entry into the conventional learning system.

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